On the Mark: Sun has some Java security problems. PAGE 6 Future Watch: Smart rooms could boost productivity. PAGE 29

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AUGUST 4, 2003 ▪ VOL. 37 ▪ NO. 31 ▪ $5/COPY

# California Plots IT Makeover

## State CIO proposes changes after Oracle contract debacle

BY MARC L. SONGINI

Thirteen months after California's centralized IT agency collapsed amid a political scandal triggered by a $126 million Oracle database licensing deal, state CIO J. Clark Kelso said progress has been made in reorganizing the way technology is procured.

But it will still take years to fully resolve the problems that were brought to light by the controversy, he added.

J. CLARK KELSO, California's CIO

Kelso, who began overseeing California's multibillion-dollar IT spending outlays in May 2002 after the Oracle scandal had erupted, last week discussed a set of legislative proposals as well as steps that the state is already taking to

*California, page 47*

# Encryption Mandate Puts Strain on Financial IT

## Efforts by retail, banking industries to upgrade ATMs and servers will take years, cost billions

BY LUCAS MEARIAN AND PATRICK THIBODEAU

A mandate by credit card companies and related funds-transfer networks to upgrade the security of electronic transactions will cost the banking and retail industries billions of dollars in hardware and software and require several years of intensive work to complete.

SECURITY SPENDING

MasterCard International Inc., Visa U.S.A. Inc. and associated network providers have established deadlines starting in 2004 for converting electronic funds networks to the Triple Data Encryption Standard. The DES cryptology algorithm currently in use has become vulnerable to attacks as a result of increases in computing power, those organizations say.

Beth Lynn, senior vice president of network administration at San Diego-based Star Systems Inc., the nation's largest debit network, said it won't be long before "it will become easy to buy a DES cracker and break those [encryption] keys."

There have been no reports to date of DES-related breakins. Instead, hackers have attempted to exploit other network weaknesses. "It's a whole lot easier to find a Windows [or] Unix vulnerability," said Ryan Kalember, a security expert at Guardent Inc. in Waltham, Mass.

In much the same way that

*Encryption, page 47*

# Feds Suspend MCI From Contract Bids

## Investigators also probe call-routing allegations by rivals

BY MATT HAMBLEN AND DAN VERTON

WorldCom Inc. last week was prohibited from competing for new federal contracts and found itself embroiled in yet another investigation, this one involving allegations that for years it has illegally routed phone calls to avoid paying network-access fees to rivals.

The U.S. General Services Administration said it suspended WorldCom's eligibility to compete for new contract bids after determining that the company, which now operates under its MCI brand name, has yet to adequately revamp its internal accounting controls and business ethics.

Hord Tipton, CIO at the Department of the Interior, said the GSA's decision could have "a big impact" on his agency's IT operations. "We have all sorts of contracts with MCI that are subject to renewal coming up the first of October," he said. "The big cost would be in dollars and time to migrate to another carrier."

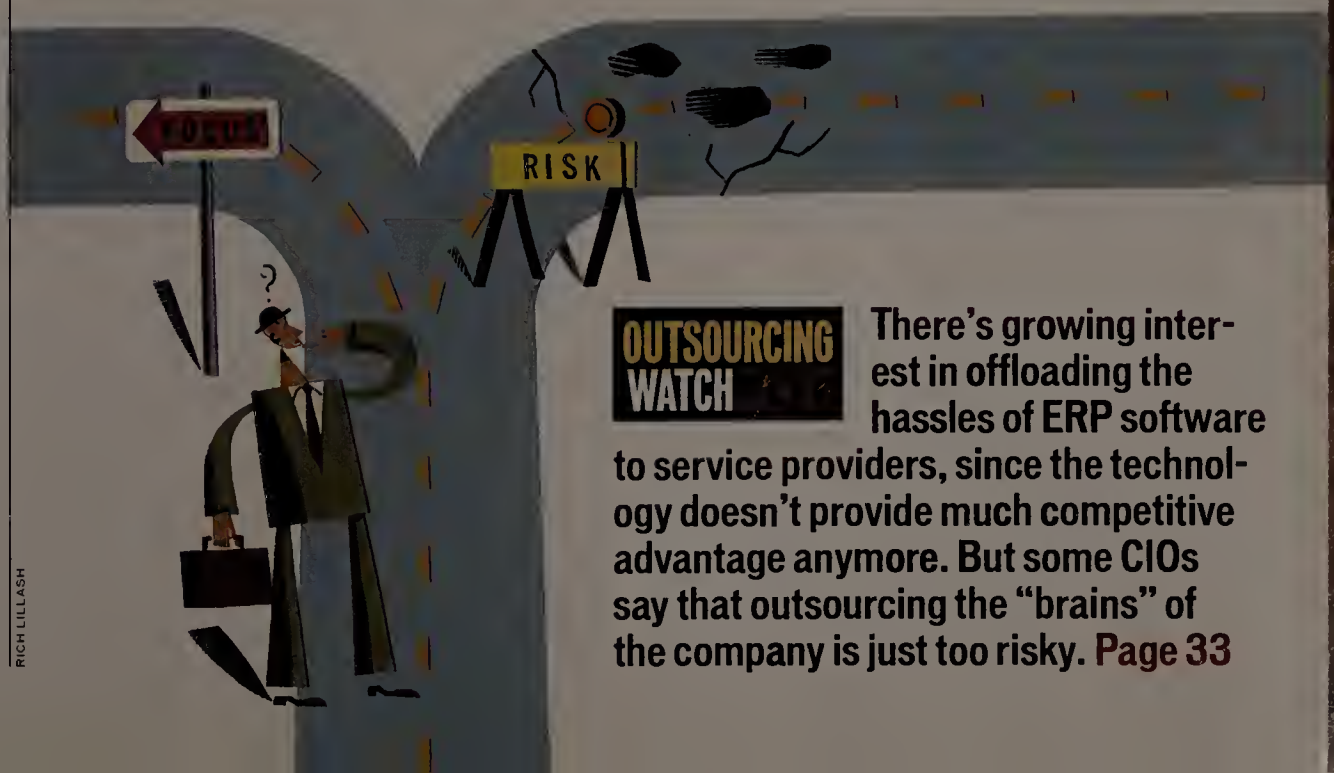
Tipton added that GSA officials met with agency heads

*MCI, page 12*

FULL COVERAGE

For additional stories about MCI's financial problems, go to our Web site: [illegible] 2310 [illegible] rworld.com

# TIME TO OUTSOURCE ERP?




RICH LILLASH

OUTSOURCING WATCH

**There's growing interest in offloading the hassles of ERP software to service providers, since the technology doesn't provide much competitive advantage anymore. But some CIOs say that outsourcing the "brains" of the company is just too risky.** Page 33

NEWSPAPER

Microsoft
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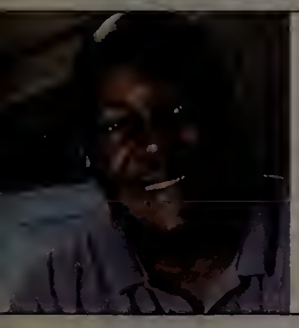
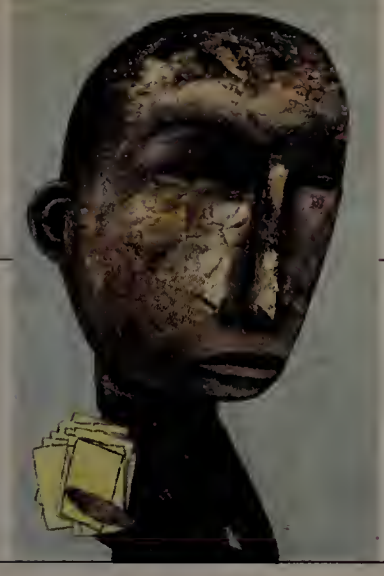


## Avoid Config Policy Potholes

**In the Technology section:** Configuration tools are plentiful and can be real time-savers, Time Warner Cable's George Geddis (left) found. But if you lack documented procedures on how to use them for each system and application, you could end up wasting your time. **Page 19**



## Breaking the Paper Habit

**In the Management section:** Huntington Bancshares replaced paper reports with a Web-based system, but it didn't count on resistance from managers who loved getting those 200,000 pieces of paper. **Page 35**

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5 **An open-source** spam-fighting tool is being beta-tested at Cornell University's school of management.

6 **CERT intends to lead** a project to promote the sharing of security information.

8 **Microsoft details** new Visual Studio features but is vague about release dates.

10 **Offshore outsourcing** could affect 5% of corporate IT jobs by 2005, Gartner reports.

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40 **Paul Glen** says new IT project managers need supportive supervision while they adjust to their new roles.

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### A Good Defense for Offense

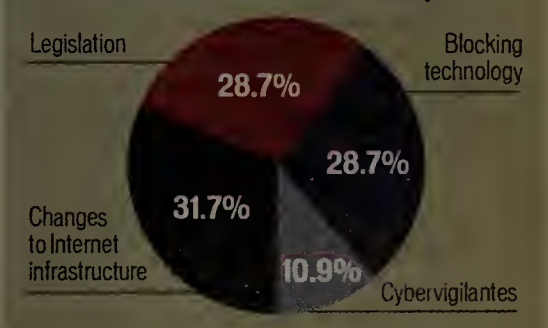
**SECURITY:** Ron Nabors at Tangram Enterprise Solutions suggests ways to protect your organization from offensive materials like pornography that can put your company at legal risk. **QuickLink 38931**

### Avoid Active Directory Pitfalls

**OPERATING SYSTEMS:** Dealing with contentious administration issues in advance will help your operating system upgrade go more smoothly, says Xevos' Mark Hynes. **QuickLink 39657**

**QuickPoll Results**

**What is the best antidote for spam?**

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**For the latest spam news, advice and opinions, head to QuickLink a3300**

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AT DEADLINE

## Sponsor Pulls the Plug on UCITA

WASHINGTON

**Citing widespread political opposition to UCITA, the National Conference of Commissioners on Uniform State Laws (NCCUSL) on Aug. 1 pulled its support of the controversial software licensing law and will no longer seek its adoption by state legislatures.**

**One top official of the Chicago-based group called the action "unprecedented" and said it stemmed from intense, wide-ranging opposition to the Uniform Computer Information Transactions Act.**

**"Clearly we are experiencing directed intense and incessant politics and strong opposition, without suggestion of concrete alternatives, from some consumer groups, insurance companies and libraries, and the allies they have accumulated," said NCCUSL President King Burnett in a letter sent Friday to the organization's commissioners. NCCUSL is financially supported by the states.**

**Burnett said NCCUSL had become "embroiled in a political debate with unusual dimensions." But he reiterated support for UCITA, noting that it will remain in place as a legal resource.**

**Carlyle Ring, who headed the now disbanded UCITA drafting committee, said the act will remain influential because it was adopted in Virginia and Maryland. He said it will continue to serve as a point of reference for courts considering such issues.**

**"The law is evolving, and it appears UCITA is influencing [it]," Ring said.**

**That point wasn't lost on opponents, who said they will continue to combat the licensing law, which sets default rules for software contracts. Opponents said these rules give vendors too much power.**

**"As long as it's out there, people have to worry about it," said Miriam Nisbet, legislative counsel for the Chicago-based American Library Association and a leader of a coalition of business and academic groups opposing UCITA.**

***– Patrick Thibodeau***

# HP Uses Siebel Tools To Unify CRM System

## Project replaces earlier Oracle deal

BY MARC L. SONGINI

Hewlett-Packard Co. expects to save millions of dollars in IT costs, standardize business processes and create a single view of its customers through a large-scale implementation of sales, marketing and partner management applications from Siebel Systems Inc.

The deal with Siebel is HP's second attempt to create a consolidated system for its sales force. In August 2001, Oracle Corp. announced an installation of its Oracle Sales Online software at HP and said it expected the application to be rolled out globally by the end of last year.

HP changed the plan to standardize its sales processes on Oracle's software after acquiring Compaq Computer Corp. in May 2002, said Steve Bonadio, an analyst at Meta Group Inc. in Stamford, Conn.

Mike Overly, vice president of customer operations at HP, said an analysis done after the Compaq deal showed that Siebel's technology was more advanced than rival products.

Using the Siebel applications gives HP "an opportunity to improve the customer experience faster," he said, adding that Oracle's software "was one of many legacy CRM systems that were retired."

Oracle said its technology produced "significant cost savings for HP." The software vendor added that it was "disappointed HP decided to go with another CRM vendor for their merged company," but said it continues to partner with and support HP.

In all, HP plans to transition about 90 existing CRM and partner relationship management systems to Siebel's software, Overly said. The project involves installing software for more than 16,000 internal end users. In addition, about 130,000 people at HP's resellers and distributors will have access to Siebel's collaborative sales and marketing tools via a Web portal.

Overly declined to disclose the cost of the project. But he said that consolidating on San Mateo, Calif.-based Siebel's applications will save HP tens of millions of dollars as a result of reduced IT maintenance costs and product simplification, and it's expected to produce increased sales and higher customer-satisfaction levels.

> **"We're living proof of having too many siloed solutions.**
>
> **MIKE OVERLY**, VP OF CUSTOMER OPERATIONS, HEWLETT-PACKARD

"We're living proof of having too many siloed solutions," Overly said. He added that HP expects to get a return on its Siebel investment by the second half of next year.

The company has been using Siebel's sales automation software since May. The next step is to install integrated marketing and call center applications by the first half of next year. After that, HP plans to add Siebel's analytical software supported by a global data warehouse to conduct more sophisticated customer analysis, according to Overly.

It might be risky to install so many applications so quickly, noted Joshua Greenbaum, an analyst at Enterprise Applications Consulting in Daly City, Calif.

Internal politics, conflicting international business requirements and "plain-old corporate inertia make these kind of projects more failure-prone than most companies like to admit," he said. ◗

# IRS Database Upgrade Delayed Again

BY GRANT GROSS

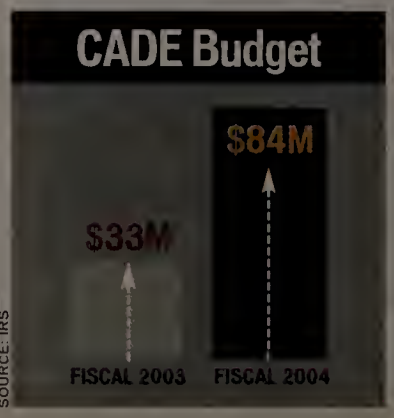
The U.S. Internal Revenue Service has delayed a project to modernize its taxpayer database for the second time in less than two years.

The IRS last week announced it has delayed the first phase of its Customer Account Data Engine (CADE) project from August 2003 to March or April 2004. The agency had originally planned to move the first group of taxpayers, about 6 million Form 1040 EZ filers, to the new system in 2001, before the project was delayed until this August.

The problems with the transition center around the "juxtaposition of the old system to the new system," said an IRS spokesman, who declined to elaborate.

IRS Commissioner Mark W. Everson said last week that the agency has launched an independent review of the project through the Software Engineering Institute of Carnegie Mellon University in Pittsburgh. The review will look at the performance of a team of contractors led by Computer Sciences Corp. (CSC) in El Segundo, Calif., and the agency's management of the contract since it was signed more than four years ago.

The IRS has asked the institute to recommend changes to the project in 60 to 90 days.




The contractors being led by CSC include IBM, BearingPoint Inc., Northrop Grumman Information Technology, Unisys Corp. and Science Applications International Corp.

The IRS said the taxpayer database in question is based on DB2 technology from IBM. IBM declined to comment.

CSC issued a statement about the IRS review but said it wouldn't comment further. The company said it's confident CADE will be in place in time for the 2004 income tax season. CSC also said it welcomes the review by Carnegie Mellon. The contractor group is "eager to share its experiences and perspectives" with the university team, CSC said.

"This most recent setback is a serious matter," Everson said in a statement. "The CADE project has had a number of delays over the past several years — too many delays."

CADE is eventually intended to house tax information from more than 200 million U.S. taxpayers. It will replace a magnetic tape-based system that the IRS began using about 40 years ago.

The old system, called the Master File, takes a week for records updates, causing delays in providing accurate account data on taxpayers.

After the first delay, the IRS renegotiated the terms with the contractors working on the CADE project. The IRS spokesman said he wasn't aware of any efforts to further renegotiate the contract. ◗

*Gross writes for the IDG News Service.*

**PROBLEMS AT NASA, TOO**

The space agency has been overpaying under a desktop outsourcing contract:

QuickLink 40360
www.computerworld.com

# Vendors Offer Plan for Disclosing Software Security Holes

## Security researchers say their concerns were ignored, slam vendor 'loopholes'

BY DAN VERTON AND JAIKUMAR VIJAYAN

A multivendor team led by Microsoft Corp. last week released new guidelines for security vulnerability reporting and response. But critics of the effort faulted it for its lack of nonvendor buy-in.

The voluntary group of 11 security companies and software developers, known collectively as the Organization for Internet Safety (OIS), has been engaged in a yearlong effort to standardize the process through which security researchers and software vendors work together on finding, fixing and releasing information about software vulnerabilities to the public.

In the past, software vendors and security researchers have been at loggerheads over the practice of full disclosure, under which vulnerability information is publicly released before vendors have a chance to respond to it.

Key elements of the process approved last week include a requirement for vendors to set up an established point of contact for receiving vulnerability information and a provision that vendors should respond within seven days to a vulnerability report.

The process also sets forth a 30-day period to find a fix, during which the vulnerability information won't be publicly disclosed by the finder, and a 30-day grace period after a fix has been issued before supplemental details such as exploit code can be released by the finder.

The OIS guidelines are an effort to create a process that is acceptable to vendors and researchers and keeps the security interests of users at the forefront, said Scott Blake, vice president of information security at Houston-based BindView Corp., one of the members of the OIS.

"The process relies on good faith by both parties," Blake said. "Users' interests are the primary consideration."

### Vendors Only?

But some independent security researchers claimed that the OIS effort is unbalanced.

"The vendors forming the OIS represent anybody but the security researchers," said Thor Larholm, a security researcher at PivX Solutions LLC, a Newport Beach, Calif.-based network security consultancy.

"The OIS is a specification made by vendors for vendors," Larholm added. "The guidelines provide absolutely no incentive for most security researchers to follow the process. There are simply too many loopholes for any vendor to continue [its] current process of downplaying the severity of vulnerabilities."

"Hiding information about bugs hurts ordinary users and systems administrators," said Georgi Guninski, a Bulgarian bug hunter who has discovered numerous flaws in Microsoft products and has previously been criticized by the company for irresponsible disclosure.

> **"The OIS is a specification made by vendors for vendors. The guidelines provide absolutely no incentive for most security researchers to follow the process."**
>
> THOR LARHOLM, SECURITY RESEARCHER, PIVX SOLUTIONS

"In most cases, when a security bug is announced by a [finder], the same [finder] gives an efficient solution to the problem," Guninski said, noting the lag time built into the OIS guidelines.

Scott Culp, senior security strategist at Microsoft, said the guidelines won't relieve any of the pressure that full disclosure imposes on vendors. In fact, he said, the opposite is true, noting that there's a timetable built into the process and that a company can be held accountable if it fails to respond to a reported vulnerability.

The OIS plans to revisit the guidelines in six months to assess their effectiveness and to incorporate recommendations from the security community. ◗

### OIS Process

**1) Discovery of a vulnerability** by an independent researcher.

**2) Notification of the vendor** and confirmation by the vendor that it has received the vulnerability report.

**3) Investigation of the problem** by both the vendor and the individual who discovered the bug to verify the claim and to ensure that the problem hasn't already been fixed.

**4) Resolution of the problem** based on a vendor-developed fix or patch.

**5) Coordinated public release of information** about the vulnerability and its remedy.

# Open-Source Spam-Blocker Gets High Marks at Cornell

BY JAIKUMAR VIJAYAN

When the academic year begins this fall, students at Cornell University's Johnson Graduate School of Management will be armed with what its CIO sees as a powerful new weapon to battle spam.

For the past two months, the school's IT organization has been beta-testing an open-source tool called the SpamBayes Outlook Plug-in and is preparing for a broad rollout.

The SpamBayes tool blocks spam using a unique form of statistical analysis that's far more efficient and customizable than any commercially available antispam product, according to Larry Fresinski, the school's CIO.

"It's been extraordinarily effective," he said. "It catches 99% of my spam." Fresinski said he has contacted 20 other business schools to inform them about the technology.

The university has been testing the SpamBayes Outlook Plug-in with Microsoft Corp.'s Outlook XP, Outlook 2003 Beta and an Exchange 2000 server. Cornell's management school is a beta tester of Outlook 2003, which, like other e-mail products, comes with its own antispam technology. As a tester of SpamBayes, the Ithaca, N.Y.-based school has recommended the approach to Microsoft, Fresinski said.

**HOW IT WORKS**

**SpamBayes**

It first analyzes samplings of "good" e-mail and spam.

It builds a database of clues from these samples to ascertain what differentiates the two.

It uses these clues to examine new messages and calculate the probability that the messages are spam.

SpamBayes is the name of an open-source project working to develop an antispam filter based on Bayesian theory, a method of statistical analysis.

The approach is different from traditional antispam technologies that use predefined rules to look for specific features or words in mail headers and body text to identify unsolicited mail. Many of these technologies also use blacklists to block mail from certain addresses.

The problem with such approaches is that they rely on a predefined and general description of spam and not on a user-specific definition of the term, Fresinski said.

SpamBayes first analyzes a user's legitimate e-mail and spam mail for clues as to what makes each different. It then applies those clues to the headers, content and style of incoming messages to determine whether they are spam.

The greater the number of initial samples and the broader the variety, the more quickly Bayesian filters can be "trained" to recognize spam, said Brian Burton, president of Burton Computer Corp., a consultancy in LaVale, Md. The company has developed an open-source tool called SpamProbe, which uses similar techniques to block spam.

"That is one of the weaknesses of this approach," Burton said. "You've got to get it to a point where it can start making the right decisions."

Although SpamBayes won't prevent Cornell's mail servers from getting spammed, it will allow end users to weed out spam more effectively, Fresinski said. So far, there hasn't been one instance in which the software has stopped legitimate mail from getting through or failed to stop spam, he said.

"It's open-source software. It's free," Fresinski said. "The beauty of it is that it continually learns what is spam to you, and not [to] some external database." ◗

**OUR TAKE**

*Computerworld* editor in chief Maryfran Johnson appreciates hearing from Fresinski and urges other CIOs to share their spam stories: Page 16

## BRIEFS

### IBM, ABB Widen Outsourcing Deal

**IBM announced a 10-year, $1.1 billion outsourcing agreement with The ABB Group, a Zurich-based maker of power and industrial automation products. The deal covers about 90% of ABB's IT operations and expands a pair of pilot contracts, valued at $600 million, that were signed in late 2001 for Sweden and India.**

### Sun Resumes Server Shipments

**Sun Microsystems Inc. said it has fixed a data corruption problem on its new Sun Fire V210 and V240 servers and resumed shipments of the low-end Unix systems. Sun had stopped shipping the servers on June 23 after discovering a flaw involving their Ethernet ports. In another matter, Sun this month plans to release a Solaris update that includes the open-source GNOME 2.0 desktop user interface.**

### Cisco Warns of Wireless Flaws

**Cisco Systems Inc. warned users about two security holes that affect the software used in some versions of its Aironet wireless access-point technology. The company released a software patch designed to fix the flaws and said that attackers could disable unprotected access points via denial-of-service attacks or steal user account names from the devices.**

### Short Takes

**SAP AG said it has reorganized its application development teams into three product groups, plus a fourth that's responsible for overall application architecture. . . . SUN, ORACLE CORP. and three other vendors released a proposed standard for orchestrating the use of Web services in complex transactions.**

MARK HALL ▪ ON THE MARK

# Java Handhelds 'A Bigger Security Problem . . .

. . . than the desktop," claims Shlomo Touboul, founder and CEO of Finjan Software Inc. Given the relatively limited hardware capabilities of these small devices, he says, "when they put Java into the handset, they took out most of the security in the JVM [Java virtual machine]." While that may be little more than a self-serving observation from the San Jose-based data security firm, it's worth considering as companies begin distributing Java phones and PDAs to mobile workers. It's also worth pondering by the network providers that may become a **legal target of those who lose precious data due to lax security.** Touboul argues that less technically sophisticated handheld users have vastly different expectations of the providers that offer "air-time services" and the devices that consume them. He says that PC makers "are considered blameless" if a virus destroys a disk drive. Not so for handsets. "When it comes to air time, I expect my providers to protect [the device]," he concludes. Needless to say, Finjan promises an answer with its Vital Security for Cellular product, in beta now at an unnamed network operator. It should hit the market in the fourth quarter. ▪ If the handheld equivalent of the Nimda virus strikes Java phones, it could be a huge problem for Sun Microsystems Inc., which, while **maybe not betting the farm on the market,** has at least wagered the back 40. Gina Centoni, vice president of the developer network at Openwave Systems Inc. in Redwood City, Calif., points out that Sun has the dominant position today with the telcos, which have made heavy investments in Solaris in their data centers and use it to deliver profitable services to handsets. This gives the creators of Java a huge advantage. Her company builds tools for cell phone and PDA application developers, who are overwhelmingly creating Java apps. But that could change, she acknowledges. "Can Sun lose it?" she asks. Sadly, "yes, it's possible," she says. The threat is real, particularly with **enterprises that are getting comfortable with .Net** for client-side deployment. It would be a bitter irony for Sun supporters to lose out to Microsoft in a big market because of security problems. ▪ The security battle between SSL and IPsec is picking up steam again as SSL proponents point out that because IPsec **encrypts data at the packet level,** the protocol can't analyze the content, the next frontier for data security. SSL scrambles the bits higher up the stack, so it can pursue the data to see if there's a virus hiding amid the encrypted info. That's just what Emeryville, Calif.-based SafeWeb Inc. will offer in the update to its security appliance in mid-August. One SEA Tsunami 4.0 unit can handle 500 concurrent users and costs $9,995. ▪ **Got Linux? Got mainframe?** Stop by the Linuxcare Inc. booth tomorrow at LinuxWorld in the company's hometown of San Francisco for a sneak peek at Levanta 2.0, which will be formally announced next week. The Linux provisioning software for IBM zSeries mainframes adds improved application management, distinct roles for systems and network administrators, and an improved GUI among other upgrades. It also adds best practices in the form of templates for **proven ways to configure a Linux partition** on big iron. All this and more for $150k. ▪ A truly wireless computing experience would eliminate the power cord from your PC, and that's just what BA Technologies Inc. in Las Vegas has done. The custom-made machines use a special Ethernet hub to deliver electricity on the four unused wires in the standard eight-wire cable that connects a PC to a network port. At $1,000, it's a bit more costly than a power-cord-bound desktop. And the hub goes for about $50 per port. Still, for some of you, **getting rid of some of the tangle** around your feet will be well worth it. ◗

### Update Your Migrator

**Spirian Technologies Inc. in Chicago will ship the Spirian Deployability 3.5 upgrade in mid-September. The tool, which manages Windows migrations and operating system patches for large organizations, adds "site autonomy" features, letting remote sites have their own master system to greatly speed system transitions. The software license is $75 per device. Service is extra.**

# CERT to Lead Project to Promote Sharing of Security Information

BY JAIKUMAR VIJAYAN

Carnegie Mellon University's CERT Coordination Center, security event management software vendor ArcSight Inc. and three universities are teaming up to help improve information sharing among security organizations.

The group will undertake what it's calling the Cyber Security Information Sharing Project. Its purpose is to conduct research and development aimed at improving companies' ability to identify and respond to cyberattacks using information gathered from throughout the security community.

Group members hope to ultimately create a set of best practices for the federal government's Information Sharing and Analysis Centers initiative, according to a joint statement released last week from CERT and ArcSight.

CERT will act as the project coordinator, and Sunnyvale, Calif.-based ArcSight will donate its software to project partners. CERT and each of the three universities, which have yet to be named, will install ArcSight's event correlation and management software to monitor and aggregate relevant information from firewalls, intrusion-detection systems and other security tools. CERT will consolidate and analyze the information to identify threats.

The project will provide an opportunity to test and enhance emerging security data-sharing standards such as the Incident Object Description and Exchange Format and the Intrusion Detection Message Exchange Format, said Larry Lunneta, a director at ArcSight. Both have been submitted as standards to the Internet Engineering Task Force.

"We anticipate a significant amount of published work to come out of this effort" related to security information sharing and standards, Lunneta said. ◗

### MORE ONLINE

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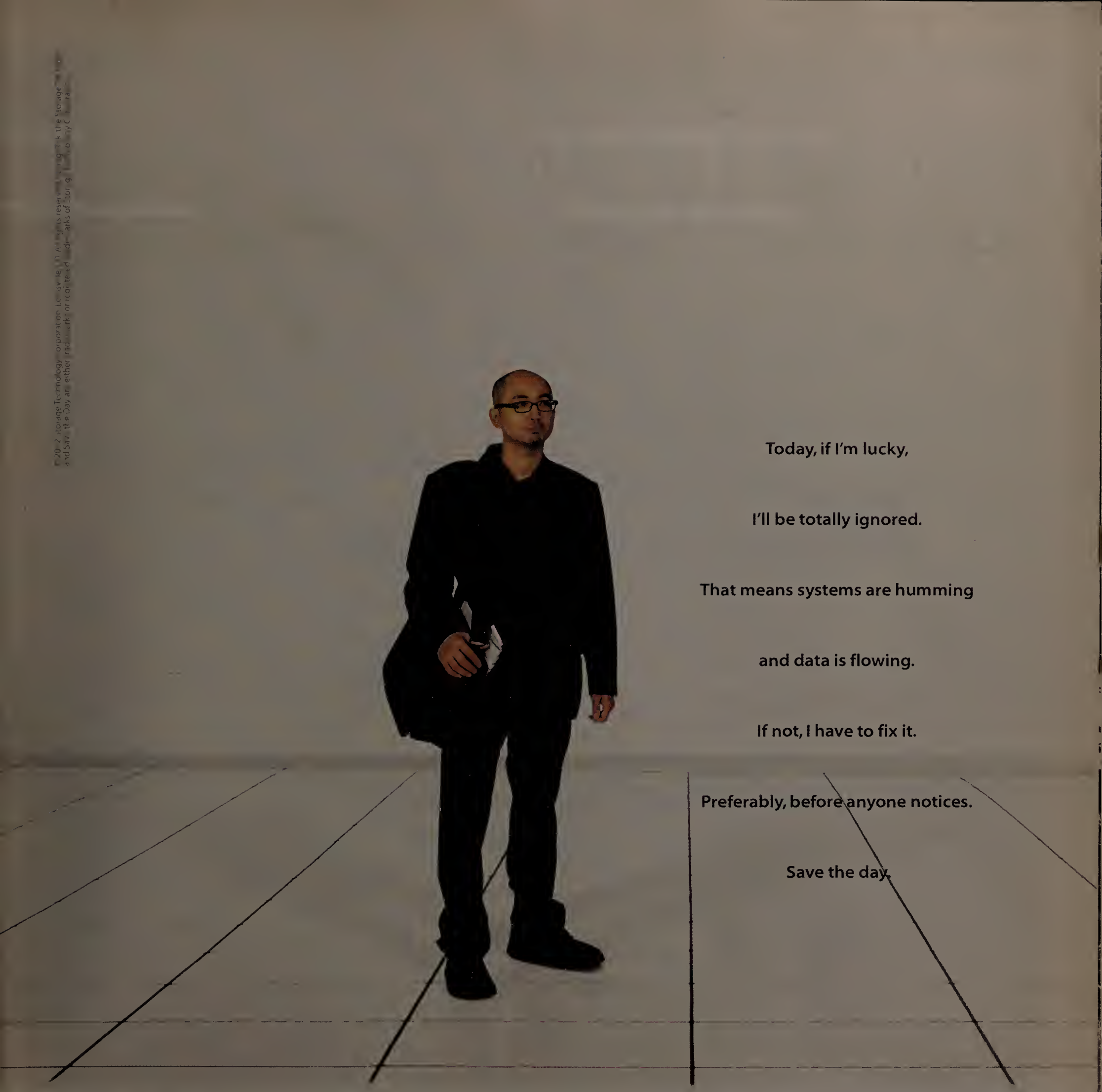

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# Microsoft Lays Out Tools Road Map

## New releases to coincide with Yukon, Longhorn

BY CAROL SLIWA

SOFTWARE DEVELOPMENT

MICROSOFT CORP. last week at the VS Live conference in New York detailed productivity, scalability and performance enhancements that are planned for the next two versions of its Visual Studio .Net development tools.

The next edition of Visual Studio, code-named Whidbey, just came out in beta and is synchronized to the SQL Server release code-named Yukon. The follow-on tools release, code-named Orcas, is linked to the next version of the Windows operating system, which is code-named Longhorn.

Eric Rudder, senior vice president of servers and tools at Microsoft, pegged the Yukon/Whidbey release for late 2004, but he said he wouldn't comment on any Longhorn/Orcas dates that Microsoft has published in the past. Rudder said Microsoft will provide more details on Longhorn and other products, as well as a CD with Longhorn and Orcas early-access code, at the company's Professional Developers Conference in October in Los Angeles.

At Microsoft's TechEd conference in early June, a senior executive displayed a slide containing a road map that projected the release of Longhorn and Orcas for 2005. The next version of the server operating system, however, was listed at 2006 or beyond.

Few details were disclosed last week about Orcas. A road map merely showed that it will support managed interfaces, provide enhanced user interface features and build on new capabilities in Longhorn, such as its Trustworthy Computing security model, improved collaboration capabilities, integrated data storage, new application model, and presentation and media improvements.

Its predecessor, Whidbey, restores some features that Visual Basic developers had been clamoring for, such as "edit and continue," which lets them debug applications, fix errors and continue without having to stop and compile.

### Additional Features

The new tool will also significantly reduce the amount of code that Visual Basic developers have to write for common tasks, simplify data access, build in language and compiler innovations, boost compiler performance, and help developers correct compile time and syntax errors in a manner similar to the way the spelling and grammar checker works in Word.

Thomas Murphy, an analyst at Meta Group Inc., said what's most noteworthy in Whidbey are enhancements to make Visual Basic developers more productive, give C# programmers greater ability to reuse code, and boost performance for C++ programmers.

He added that in Whidbey, Microsoft starts to take an important step away from entry-level, bare-bones tools to enterprise-class capabilities by better integrating version control, modeling and testing capabilities. That will make Microsoft's offerings more competitive with those from vendors such as as IBM's Rational Software division and Borland Software Corp., he said.

"In order to continue to drive developer productivity, you need to tightly integrate the development life cycle and build tools that support a collaborative development methodology," Murphy said.

Also last week, Microsoft expanded its newly renamed Visual Studio Industry Partner program, adding two less-expensive tiers of membership. ▶

## Visual Studio

**CODE NAME Whidbey**

- **Projected ship date:** Late 2004
- **New features:** Simplified data access, language and compiler innovations (including support for generics and iterators); improved compiler performance; integrated code snippets to reduce the amount of code developers write for common tasks; XML-based documentation; a mechanism for correcting compile time and syntax errors; improved tool window docking model; new controls for Windows Forms; strengthened 64-bit support; and SQL Server Yukon integration.

**CODE NAME Orcas**

- **Projected ship date:** 2005
- **New features:** Support for managed interfaces, new user interface tools and Longhorn features, including the Trustworthy Computing security model, improved collaboration capabilities, integrated data storage and new application model.

# Senior VP Outlines Longhorn Server Release Plan

BY CAROL SLIWA

**Eric Rudder**, senior vice president of servers and tools at Microsoft Corp., last week spoke with *Computerworld* about the direction for the next version of the Windows operating system, code-named Longhorn.

Excerpts from that interview follow:

**Microsoft said last November there would be no Longhorn server. Then Brian Valentine, senior vice president of the Windows division, told me in March that there might be a Longhorn server. Now you're saying there will be a Longhorn server. What happened?** We typically do a server release about every three years, and we're eagerly working on the next version of Windows Server as we speak. I think in the past people have been cautious about setting customer expectations, and that potentially [caused] some of the confusion. The client guys are out saying, "Hey, our date is *x*." If we impart the same name, customers may link in their minds, "Oh, the server has the same name, therefore it's the same date."

So I think people were a little bit scared about setting expectations, because we're pretty serious, once we commit to the schedule for the product, to try to come close to honor that. This is a case where we're clearly customer-driven in terms of feature set, and we're not date-driven on our server products. We're more quality-, performance-, security-, dependability- and ecosystem-driven.

**Will we see synchronized releases of the Windows client and server operating systems in the future?** I think it would be nice if it were synchronized, because it probably makes it a little bit easier for customers to think about how they upgrade their networks on a consistent basis. But we're going to be driven in the end by customer demands and quality demands, and there's a set of business objectives that we need to balance between them. It's hard for me to predict a year out what the balancing is going to look like in any shape or form.

**What new functionality is driving the Longhorn server release?** With Windows 2003, we had the theme of "do more with less," and we want to continue to push that forward. We want to make some fundamental breakthroughs on management and the operations side.

One of the big initiatives is what we call DSI, our Dynamic Systems Initiative. This is managing the platform as a whole rather than as a set of technical parts, and it impacts how we think about delivering the base Windows and the products that work with the next version of the server – literally how we design applications and add information to applications.

You can think about scenarios where the data center sort of manages itself, because it knows that you've set a performance threshold, a certain application, and can add resources or take away resources if they're not being used.

Of course we'll continue to advance the application platform for Windows. It's important to continue to build better apps faster, and you'll see us deliver the next set of .Net technologies in there. You'll see us deliver a server version [of the] WinFS [file system] eventually, so that same functionality that's available on Longhorn client can be expressed in lots of different ways on the server.

Then on the information worker side, we need to continue to advance that set of functionality to get benefit to the end users. So SharePoint Services will be significantly revved, and our portal infrastructure as well.

### MORE ONLINE

To read the complete interview with Rudder, visit our Web site:

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# Gartner Says 5% of Corporate IT Jobs Could Go Offshore by 2005

## Most workers whose positions are shifted won't be redeployed, firm says

BY THOMAS HOFFMAN

GARTNER INC. last week predicted that between now and the end of next year, one out of every 20 corporate IT jobs that now exist in the U.S. will be moved offshore, along with 10% of the positions at U.S.-based IT vendors and technology services firms.

And through 2005, less than 40% of the IT workers whose jobs are shifted to offshore operations will be redeployed to other positions by their current employers, according to a report issued by Stamford, Conn.-based Gartner. The remainder will simply lose their jobs, Gartner indicated.

The consulting firm's study draws upon employment figures from the Arlington, Va.-based Information Technology Association of America, which puts the current U.S. IT workforce at a total of 10.3 million people.

M. Lewis Temares, vice president of information management at the University of Miami in Coral Gables, Fla., said that Gartner's predictions sound reasonable, given current trends. "I think the [job displacement] numbers may be at that level now," he said.

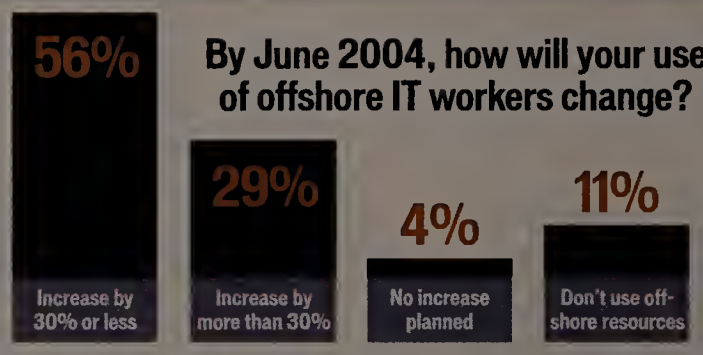
### How to Stem the Tide

Temares downplayed the potential effect that pro-U.S. labor legislation might have on stemming the flow of IT jobs overseas. "I'm a believer in market economics, so I don't think legislation is the solution," he said. Instead, Temares believes that finding more effective ways to do technology work domestically would make U.S. IT shops more competitive with ones offshore. Being able to guarantee that U.S.-developed software is more secure than code written by offshore workers would also help, he added.

Maria Schafer, an analyst at Meta Group Inc., also in Stamford, agreed with Gartner's estimates that the number of jobs sent overseas by U.S. IT vendors may approach 10% by the end of next year. But Schafer said she thinks Gartner's prediction that 5% of corporate IT jobs will be moved offshore by that point "is wildly high."

Relocating jobs to other countries "takes a lot of different pieces coming together, not least of which is an organization strategy and plan, an available workforce and, most importantly, transition time," Schafer said. "It takes a lot of effort to manage remotely what you've up to now managed locally."

**OFFSHORE IT PLANS**




Base: 169 respondents to an interactive poll at Gartner Inc.'s Outsourcing Summit in June

Gartner analyst Fran Karamouzis said researchers at the company are still trying to calculate the total number of jobs that will be moved offshore to places such as India and Singapore by the end of 2004. The challenge "is that there's a level of new-job creation" that has to be factored into the calculations, she said.

The movement of IT jobs offshore could be affected by "public and legislative pressure," said Craig Symons, an analyst at Giga Information Group Inc. in Cambridge, Mass. Symons added that he expects the financial services industry to lead the offshore push among U.S. companies. Banks and brokerages have historically led the curve when it comes to adopting new technologies and IT methodologies, he noted. ▶

# EMC Adds High-End Array, New Connectivity Options

## DMX3000 model doubles capacity in Symmetrix line

BY LUCAS MEARIAN

EMC Corp. last week upgraded its Symmetrix DMX disk array line by announcing plans to add a new high-end model plus native support for IBM's Ficon mainframe connectivity technology and the low-cost Internet SCSI (iSCSI) storage interconnect.

EMC also introduced a new version of its Symmetrix Remote Data Facility (SRDF) software that supports asynchronous replication of data across distances of thousands of miles for disaster recovery purposes, plus a local replication product called EMC Snap that can create point-in-time copies of storage volumes.

The Hopkinton, Mass.-based company said the DMX3000 high-end array will support up to 84TB of raw storage capacity and 73.5TB of usable space. The new model offers twice the capacity of EMC's existing DMX2000 array and is due to become available next month.

The SRDF/Asynchronous (SRDF/A) replication software is available immediately for use with all of the Symmetrix DMX arrays, as is EMC Snap.

**EMC'S NEW DISK ARRAYS**

**Symmetrix DMX3000**

- High-end model that can be equipped with up to 576 disk drives for a maximum raw capacity of 84TB
- Supports up to 64 Fibre Channel host ports or Escon channels, or 32 Ficon, Gigabit Ethernet or iSCSI connections
- List prices start at $1.7 million

**Symmetrix DMX800**

- New entry-level configuration with a raw capacity of 5800B that can be expanded to 17.5TB
- Features low-cost disk enclosures compared with those of the earlier DMX800 series
- List price starts at $264,000

EMC said the built-in Ficon and iSCSI support is scheduled to be added in September, when the DMX3000 ships.

Mark Popolano, CIO at American International Group Inc. (AIG) in New York, said he plans to use SRDF/A to replicate data between redundant storage-area networks (SAN) that he's building at data centers in New Jersey and Texas — a distance of about 1,500 miles. AIG expects to install about 280TB of storage capacity on EMC's DMX1000 and DMX2000 arrays as part of the multimillion-dollar SAN project.

Popolano said he's particularly pleased about EMC's planned addition of Ficon support, because AIG will use the Symmetrix arrays to back up mainframes that have a combined performance level of "several thousand MIPS," as well as Windows NT and Unix servers.

### Using Less Bandwidth

The SRDF/A software can reduce bandwidth consumption by up to 30% by mirroring delta sets of data every 15 to 30 seconds instead of constantly updating information as it's written to disk drives, said Chuck Hollis, a vice president at EMC. The company is also adding native Gigabit Ethernet connectivity to the SRDF technology for Symmetrix DMX, which lets users replicate data remotely without installing any channel conversion devices.

Chuck Standerfer, an analyst at Evaluator Group Inc. in Greenwood Village, Colo., said that many EMC users have been waiting for Ficon support, which boosts peak throughput between the disk arrays and mainframes from 17MB/sec. with IBM's older Escon technology to 200MB/sec.

EMC said its new iSCSI ports will let systems administrators use IP-based SANs to attach low-end servers to Symmetrix DMX arrays for data backups. Such connections previously required SANs based on more costly Fibre Channel technology.

The company also announced an upgrade of the Symmetrix DMX line's Enginuity operating software and a lower-cost configuration of the entry-level DMX800 array. The new offering costs 30% less than the initial DMX800 model that was introduced in February, but it supports only about half the raw minimum storage capacity, EMC said. ▶

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## BRIEFS

### Dell Posts, Pulls Handheld PC Patch

Dell Inc. posted a software patch for its Axim handheld PCs but then quickly pulled the code from its Web site after hackers used the patch to download free copies of Microsoft Corp.'s Pocket PC 2003 operating system. Dell did not say when it expects to reissue the patch, which was designed to fix a flaw in firmware that the company developed to work with the Microsoft operating system.

### Microsoft Says NT Patch Needs Fix . . .

Microsoft acknowledged that a software patch released July 23 can cause problems on servers running Windows NT 4.0 and its Routing and Remote Access Service software. The routing code fails when IT managers reboot systems after installing the patch, Microsoft said. An update of the patch is in the works, although a "hot fix" that hasn't been fully tested is available now.

### . . . And Signs Deal To Settle Lawsuit

In another matter, Microsoft said it has agreed to settle a patent-infringement lawsuit filed by San Jose-based Immersion Corp. The deal calls for Microsoft to pay $26 million to license Immersion's interactive touch technology and to buy an ownership stake of just under 10% in the company.

### BMC Cuts Jobs Following Q1 Loss

BMC Software Inc. reported a $6.1 million net loss for its first quarter and said it's laying off about 900 employees, or 13% of its workforce. Houston-based BMC said it had revenue of $309.9 million in the quarter, which ended June 30. That was up 2% year-over-year, but Bob Beauchamp, BMC's president and CEO, said he was "taking fast action to improve our . . . financial performance."

# Unisys Expands Partitioning With Upgraded Mainframe

## May have greatest appeal among existing users

BY PATRICK THIBODEAU

UNISYS CORP. has released a new mainframe, its most powerful to date, aimed at IT organizations that are consolidating servers and moving to Web services.

The ClearPath Plus Libra 185 can operate at 10,500 MIPS, a processing speed that's more than 400% above that of Unisys' previous top-line model. It also features built-in .Net and Java support, the Blue Bell, Pa.-based company said.

The system, which will cost $1.1 million to $22.4 million, depending on the configuration, is intended to support the Unisys Business Blueprinting strategy, which was announced last month.

Like Hewlett-Packard Co.'s adaptive enterprise, IBM's on-demand initiative and Sun Microsystems Inc.'s N1, the strategy is designed to improve a company's ability to adapt its existing technology to changing business models.

John Phelps, an analyst at Gartner Inc., said the server's added capability will have its strongest appeal among existing ClearPath users. "This is a good growth option that they have," he said.

Bob Kenward, vice president of information services at United Fire & Casualty Co. in Cedar Rapids, Iowa, has been testing the new mainframe and was considering putting it in production this past weekend. The mainframe's chief appeal is that it can support up to eight partitions, he said. Kenward's current system fails over to the development machine, halting work. But the partitions "give me the ability to keep programmers working when the company fails over to the programmers' machine," he said.

Kenward has no immediate plans to utilize the .Net or Java support but said he wants the latest and best mainframe from Unisys because he plans to use it for at least six years.

Unisys said the new mainframe supports its Blueprinting strategy by allowing mainframe and packaged applications to run on one machine. The system can run Unisys' MCP mainframe operating system along with other operating systems, including Linux and Windows, running on the various partitions. ▶

NEW PRODUCT

**Unisys ClearPath Plus Libra 185**

- Up to 32 CMOS processors and 24 Intel Xeon processors
- Eight partitions, 64GB of memory

**OPERATING ENVIRONMENTS:** MCP; Microsoft Windows 2000 Datacenter Server; Windows Server 2003, Enterprise and Datacenter editions; Linux

*Continued from page 1*

# MCI

on Friday to assess the potential governmentwide impact of MCI's suspension, which took effect that day.

Vance Hitch, CIO at the Justice Department, said he is also concerned about the situation. "We sent several people from our telecommunications group to meet with the GSA to understand exactly what this means," he said. "We'll be assessing our alternatives and working on a strategy over the next several weeks."

By contrast, Lt. Gen. Steven W. Boutelle, the U.S. Army's CIO, said he doesn't expect "any interruption in our ability to provide global and pervasive information." The Army has a number of potential network service providers other than MCI, he added.

But even GSA officials have acknowledged that the effects could be widely felt. In a May 30 memo, GSA General Counsel Raymond McKenna said any shift away from MCI would disrupt telecommunications services to many agencies, including military, law enforcement and homeland security organizations.

MCI has 30 days to challenge the GSA's decision before it's formally barred from the contracts process. But the company said it accepts the ruling and will seek reinstatement after it finishes installing new control systems and strengthening its ethics office.

A spokeswoman for MCI said it plans to continue making contract bids to agencies in anticipation of being reinstated. The carrier "fully intends to be able to put into place the necessary accounting controls," she said, adding that MCI hopes to meet the GSA's requirements "sometime in the very near future."

The ruling by the GSA, which awards and manages private-sector contracts for the government, won't affect existing deals between MCI and federal agencies.

> **"MCI has a big magnifying glass on it right now."**
>
> **RICK SLOAN,** MANAGER OF TELECOMMUNICATIONS, DOLLAR TREE STORES INC.

The call-routing investigation came to light when AT&T Corp. filed a 27-page objection to MCI's Chapter 11 reorganization plan in U.S. Bankruptcy Court in New York. AT&T said calls made by MCI customers were "knowingly and recklessly" routed through Canada and back to AT&T's network. That resulted in "millions upon millions" of dollars in MCI operating expenses being offloaded upon AT&T, the company claimed.

In addition, a spokesman for San Antonio-based SBC Communications Inc. said MCI has avoided access fees owed to SBC at a rate of about $1 million per week, dating back to its bankruptcy filing in May 2002. Long-distance calls from MCI users were "disguised and masked" as local SBC calls, the spokesman claimed.

"MCI has a big magnifying glass on it right now," said Rick Sloan, manager of telecommunications at retailer Dollar Tree Stores Inc. in Chesapeake, Va. Dollar Tree has been an MCI customer for 11 years and buys millions of dollars worth of network services from the company annually, Sloan said. He added that Dollar Tree is now evaluating MCI and 16 other vendors for a new multiyear contract that will be awarded next month.

Sloan said he thinks MCI's rivals are worried that it will emerge from bankruptcy in a relatively strong competitive position. "In our contract talks, any vendor's ethics are one thing among many we consider," he said. But for Dollar Tree, reliability of service "has never been an issue" with MCI, Sloan added.

In a statement, MCI CEO Michael Capellas said that MCI officials have met with staffers from the U.S. attorney's office for the southern district of New York and "committed to them our full cooperation in their efforts." He also said that MCI has hired an outside law firm to analyze the charges.

"As I have said all along, we will do the right thing," Capellas said. "We have a zero-tolerance policy, and if any wrongdoing is discovered, you can be certain that we will take appropriate action swiftly." ▶

# Private Companies Feel Effects of Sarbanes-Oxley

## Financial reporting law could force IT changes even at nonpublic businesses

BY THOMAS HOFFMAN

When Congress passed the Sarbanes-Oxley Act in July 2002, the mandates to put more stringent controls on corporate accounting practices were primarily aimed at public companies. But executives, consultants and lawyers are starting to realize that there are both direct and indirect implications for privately held businesses as well.

For instance, public and private companies alike must adhere to the so-called whistleblower provision of the financial reporting law, said John Hagerty, an analyst at AMR Research Inc. in Boston.

That section specifies that employees must be given the means to anonymously notify federal regulators or corporate audit committees of any potential wrongdoing within their companies.

In addition, privately held companies would have to take many of the other steps mandated by Sarbanes-Oxley if they decided to go public or agreed to be acquired by a public company, according to Hagerty and other analysts.

### Other Considerations

The whistle-blower provision probably won't pose major IT implications for most companies, beyond the need to provide confidential methods of communication.

But the stock-offering and merger considerations are another story. Just like their peers at public companies, IT managers who work for privately held businesses could be forced to make substantial changes to their system infrastructures and data-reporting capabilities.

"If you're thinking of going public, or it's even in the realm of possibility for you, this is sure as heck something that you'd better plan for," said Robert Handler, an analyst at Meta Group Inc. in Stamford, Conn., referring to Sarbanes-Oxley compliance.

Fred Pauls, corporate records manager at J.R. Simplot Co. in Boise, Idaho, said the privately held agribusiness has already taken steps to address the provisions of Sarbanes-Oxley because it has government contracts that require compliance with the law.

J.R. Simplot, which has annual revenue of more than $3 billion, last year began indexing its purchase-order system so the application meets Sarbanes-Oxley's record-keeping requirements. The company is using an automated records management system from Colorado Springs-based Optika Inc., which it has used for other purposes since the early 1990s.

**SPECIAL COVERAGE**
For additional coverage of Sarbanes-Oxley compliance issues, visit our Web site:
**QuickLink a3250**
**www.computerworld.com**

### Compliance Tips

**IT managers at privately held companies should take these steps to address Sarbanes-Oxley:**

**EXAMINE** how the law's requirements could affect your company's information workflow, and identify where the critical workflow points are.

**ASSESS** the accuracy of your financial data and the capabilities of the systems that support your finance operations.

**INSPECT** the internal controls that your company applies to financial information.

"We do comply in most cases with Sarbanes-Oxley, due to previous [internal financial control] policies, and this software system is a key part of that," Pauls said.

In the future, he added, J.R. Simplot will likely take advantage of a link between Optika's Acorde Records Management software and J.D. Edwards & Co.'s financial applications to help ensure that its procedures comply with other parts of the law.

Jocelyn Arel, a partner at Boston-based Testa, Hurwitz & Thibeault LLP, said some public companies that she's representing in potential acquisition deals are beginning to push privately held businesses to document their internal accounting controls and processes in order to show compliance with the Sarbanes-Oxley Act.

"We're starting to see that in the due diligence process that buyers are going through," said Arel, who is co-chairman of the law firm's corporate finance and securities group.

# Avaya CEO Sounds Hopeful Note, But Looks for Ways to Drive Sales

## Networking vendor reports profit after seven straight losses

BY MATT HAMBLEN

*Avaya Inc. on July 24 ended a string of seven straight quarterly losses by reporting an $8 million profit on revenue of $1.07 billion for its third quarter, which ended June 30.*

*Several days before the results were announced,* **Donald Peterson,** *Avaya's chairman and CEO, spoke with* Computerworld *about the status of the Basking Ridge, N.J.-based networking equipment vendor, which was spun off from Lucent Technologies Inc. in October 2000. Excerpts follow:*

**On a scale of 1 to 10, how would you rate Avaya's performance during its current fiscal year and in each of the past two years?** At the end of our first year, which was fall of 2001, I felt like we were doing what we needed to do. We had seen a small step down in revenue, about 10%, but earnings were up, and we were generating cash, and we made a couple of acquisitions. But then the revenue fell away from us much more dramatically than anticipated.

So I would have given us an 8 out of 10 one year out. By the fall of 2002, I would have dropped that to a 4 or 5. And since that time, I would take us back towards an 8.

**What level is your research and development spending at now?** R&D is right about 9% of revenue, which is about where it should be. We can live well with 9% of total revenue, keeping in mind that if you looked at product revenue, [which is] less than half of total revenue, we're in the midteens. That's about a $400-million-a-year R&D flow, and that's a pretty robust program.

**Have you stopped cutting jobs at Avaya? Your workforce is at nearly 19,000 now, which is down almost 20% from a year ago.** We were at 34,000 full-time employees when we spun off from Lucent in late 2000 and are at a little under 17,000 full-time employees right now, and part-timers and contractors would take it up to that 18,000-plus number. So, we have taken a lot out of the business.

At the same time, we've been relatively successful at keeping people focused. We're kind of at where we should be, but there will be some drifting down of that number, and frankly, it will oscillate. It could come down more, but it could expand fairly rapidly if we get 10% more revenue.

**What about the economy and when you might see an uptick in revenue?** The conversation is better out there. More of our customers are talking about the [need for an] investment program, and the CEOs are talking about looking at an increase in spending. We're getting closer to a turnaround.

**Do you see Avaya still relying on voice technology in the coming years?** I see us playing our biggest role in voice. [But] I think what we'll deliver will change dramatically. Five years out, we'll be almost all software running on standard servers.

There will be voice applications and core voice processors that are major components of other systems, and we will supply them on an OEM basis to people that supply the servers and the middleware — the IBMs and HPs and, hopefully, Microsoft.

**You obviously like your job, but what problems keep you up at night?** I do like my work. But struggling with the revenue line clearly has been the most stressful part of this work.

When you have a little bit of a problem, as we have had in the last couple of years, fighting against that is a little disappointing some days. But we're getting through that, and those days are fewer.

**What do you most need at Avaya now?** Getting ourselves visible in the marketplace.

SHARP

Digital Document Security and IT: Everything you need to know.

**Q:** What are the most significant digital copier security issues?

**A:** Various copier print controllers are actually servers that queue and permanently store multiple document files, providing administrator access to the documents. At a minimum, most digital copiers retain the last document processed; some even retain multiple documents totaling hundreds of pages. Others redirect print jobs when the printer is busy or jammed, making "denial of service" attacks possible.

**Q:** How does Sharp protect the network interface?

**A:** The Sharp Ethernet card allows administrators to restrict access and disable unnecessary protocols. With this network card, the Sharp digital copier is essentially protected by its own firewall.

**Q:** How can you be sure that security products actually perform as claimed?

**A:** The Common Criteria program—administered by the U.S. National Security Agency and the National Institute of Standards and Technology—evaluates security solutions. Products that are validated under the program meet security levels consistent with ISO 15408 methodology.

**Q:** How can Sharp improve IT security?

**A:** Sharp offers print privacy solutions designed to restrict unauthorized personnel from seeing confidential materials. Copier access can be controlled and monitored, while documents retained in printer/copier/scanner/fax memory are immediately cleared to eliminate unauthorized access.

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# IBM Readies Portal Software Upgrade

## New version adds data-sharing, document management tools

BY MARC L. SONGINI

IBM last week unveiled planned enhancements to its WebSphere Portal software that are designed to let IT managers and end users set up data-sharing capabilities between applications without resorting to the use of customized connectors.

Tim Thatcher, program director of WebSphere Portal marketing at IBM, said Version 5 is aimed at helping companies get a return on their portal investments more quickly. Key new features include so-called cooperative portlets functionality for distributing data from one application to another and separate integration tools for linking specific information stored in different databases.

The upgrade, which is due to ship Aug. 21, also includes a document management function that lets end users centrally store financial reports, product specification sheets and other business documents so they can be shared with and modified by co-workers. Companies can use the portal software to track different versions of a document and control access to information, IBM said.

The company is also adding a version of the software called WebSphere Portal Express for small and midsize businesses or small departments within large companies. The Express release will simplify the process of adding new users or changing the portal's look and feel, IBM said, adding that it will also be packaged with instant messaging, chat and group calendaring tools.

Plastic Surgery Center of Hampton Roads, a medical facility in Newport News, Va., has been beta-testing Express since January along with add-on messaging and single sign-on tools developed by a third-party vendor.

Patricia Stibbs, practice administrator at the center, said the portal application has already paid for itself through improved staff productivity and a reduction in paper-based manual processes. The medical facility has also been able to centralize "the tremendous amount of information running in the office," she said.

Stibbs said that within the next 90 days, the company plans to go live with the document management feature, which will let employees securely share confidential data via WebSphere Portal. It also plans to tie the portal into a new back-end billing system that will be based on a set of packaged applications that have yet to be chosen.

IBM has improved the WebSphere Portal installation process to make it easier to roll out the software in a test environment before doing a full-blown implementation, said Laura Ramos, an analyst at Forrester Research Inc. in Cambridge, Mass. The process is also more modular, allowing users to skip steps or swap out some of the underlying components more easily, she noted.

There is no clear leader in the portal market at this point, Ramos said, but she added that IBM offers the widest range of native capabilities for supporting transactions, applications and content aggregation. ◗

### IBM's WebSphere Portal Version 5

**KEY FEATURES:**
- Simplified installation and application integration capabilities
- Centralized document management functionality
- Built-in spreadsheet, text editing and data presentation tools

**PRICING:** $87,000 per processor for the Enterprise version; $33,000 per CPU for the Express release

# Comdex Fall 2003 to Target IT Professionals

BY CAROL SLIWA

You won't find booths pitching massage chairs, refrigerator magnets or shoe insoles this November on the exhibition floor at Comdex Fall 2003 in Las Vegas.

Eric Faurot, vice president and general manager of Comdex, said late last month that the computer trade show's focus will be on addressing the business-to-business needs of IT professionals.

"It's important for us to eliminate the notion of consumers coming to Comdex," Faurot said. "Our goal is to be the industry event for IT."

Questions swirled about Comdex's future when Key3Media Group Inc., the company that produced Comdex and other high-profile technology trade shows, filed for Chapter 11 bankruptcy protection in February [QuickLink 36120]. But the company announced in June that it had emerged from Chapter 11 and that it would change its name to MediaLive International Inc. and relocate its headquarters to San Francisco [QuickLink 39372].

With the event's new focus, gone will be the digital lifestyles track. Instead, Comdex will be a "best-of-breed" conference focused on seven core themes: wireless and mobility, Web services, digital enterprise software, on-demand computing, open-source, security, and Windows and .Net, Faurot said.

One way that Comdex organizers will try to attract a higher-quality audience is by charging an entrance fee. Those who preregister will pay $50, while those who register on-site will pay $100, Faurot noted.

So far, 150 vendors have committed, and organizers are in talks with another 400 to 500, according to Faurot. He said there were about 900 exhibitors last year.

Microsoft Corp. signed up about three months ago, and its chairman and chief software architect, Bill Gates, has once again agreed to deliver the opening keynote, Faurot said.

Comdex will be positioned similarly to June's CeBIT America in New York. That show, the first CeBIT event to be held in the U.S., also had a business-to-business focus [QuickLink 39174]. But Faurot said there's "definitely room, as the market bounces back, for more than one event." He noted that CeBIT America now fills the vacancy left by PC Expo in New York, which tended to have a regional draw.

"They've got a great brand internationally, but it's going to take them a while to build awareness in the New York market," he said. ◗

*Trends in Proprietary Information Loss Survey (ASIS 2002). ©2003 Sharp Electronics Corporation.

# How secure is your digital information?

Protect your information with the Data Security Kit from Sharp. Financial facts, personnel records, customer lists: networked copiers/printers process sensitive information every day. Unfortunately, their hard drives can also be accessed via the network, contributing to $60 billion worth of information theft every year.* To protect this weak link in your corporate security, we've created our Data Security Kit. It's the first copier and printer protection to be validated by Common Criteria, a government-sponsored program, and it's available only with our Digital IMAGER™ series of copiers/printers. Sharp's Data Security Kit. Enhanced information protection at your fingertips. sharpusa.com/security

Common Criteria

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MARYFRAN JOHNSON

# Skirmishing With Spam

WHEN I cranked up my spam filter settings to "aggressive" not long ago, I saw a gratifying drop in the number of junk e-mails sneaking through *Computerworld*'s filtering service. But I quickly discovered the downside of my e-mail tinkering: one irritated husband and one bewildered daughter, both of whom had sent e-mails that were caught as "false positives" and plopped into the spam bucket by mistake.

MARYFRAN JOHNSON is editor in chief of *Computerworld*. You can contact her at maryfran_johnson@computerworld.com.

"You blocked me, Mom?" said the daughter. "Expletive deleted," said the husband.

So I wasn't surprised last week to see false positives referred to as "the biggest challenge in the spam wars," in our cover story on "Spam Battle Plans" [QuickLink 39842]. False positives can lead to lost business, angry customers and mutual frustrations galore. Spam just keeps getting better at getting worse, doesn't it? With an estimated 50% of all incoming business e-mail now likely to be spam, legitimate messages are swimming upstream like exhausted salmon in the wrong river.

"When you're receiving 60% less e-mail due to spam blocking, you wonder what you're missing," says Rob Buchwald, security manager at Ohio-based Moen Inc. [QuickLink 39841]. Moen, which sells residential and commercial plumbing supplies, grew weary of the system-tinkering required every hour to keep e-mail lists and rules updated to block spam. The company turned the whole mess over to a service provider — and now only one message in 5,000 is blocked as a false positive.

Legitimate e-mail getting sidelined because of spam is a particular pain for certain industries, such as health care and financial services. One medical center we wrote about takes such a hard-line stance on spam that even personal e-mails are considered junk. ("You blocked me, Mom?" "No, honey, my IT department did.") Of course, financial necessity plays a big role in all industries, since piling on e-mail servers and storage to cope with spam is an unwelcome strain on budgets these days.

So are there any happy endings to spam stories?

Perhaps. Our article on spam drew the attention of one CIO who believes he's found a way to defeat it. Larry Fresinski of Cornell's S.C. Johnson Graduate School of Management e-mailed me about his discovery, and thankfully his message made it through my filter gantlet. He's testing an open-source spam filter called SpamBayes that seems to work well with Microsoft's Outlook 2003 (see story, page 5).

"I've turned the Outlook filtering off and rely on this now," says Fresinski, who is part of Microsoft's beta-testing group for Outlook 2003. The code for the SpamBayes Outlook plug-in (*http://starship.python.net/crew/mhammond/spambayes/*) can be installed quickly, and it's regularly updated, he says. It also works with Outlook 2000 and Outlook XP (but not with Outlook Express).

"SpamBayes is a little-known effort that's making tremendous progress. It's a very effective tool — 99% of my spam is being captured," Fresinski says. "The beauty of it is that it continually learns what is spam to you and not to some external database." That speaks to one of the big issues in the spam battles — and the reason it can't be blocked or attacked as comprehensively as viruses can. "Spam is not generic," Fresinski notes. "Plenty of it is similar, but a large amount of it is specific to each person and what they consider to be spam."

As the spam wars keep escalating, it's nice to hear from one of the victors. If your defenses are holding up, let us know so we can share your battle plans with your colleagues.

PIMM FOX

# WYSIWYG For Color

WHAT YOU SEE *isn't* what you get.

That's the problem with color.

Although inexpensive desktop printers, monitors, scanners and digital cameras have made color widespread inside businesses today, they haven't ensured color fidelity or consistency. Producing consistent color from start to finish has required guesswork by designers, art directors and commercial printers.

Until now.

The color management system developed by the International Color Consortium (ICC) enables color coordination from monitor to desktop printer to press. This should cut down on the number of pricey proofs and reduce the likelihood that you'll get poorly matched colors and disparate results that add time, money and stress to a process that ought to be about greater customer value.

For example, color for a logo can appear different on any given monitor, different when reproduced by a desktop color printer and different again when rolling off a color press. Color models that use numerical values to describe color, such as RGB (red, green and blue — for monitors) and CMYK (cyan, magenta, yellow and black — for print), can help designers designate what they want, but they don't offer consistency over the range of I/O devices and applications.

The profiles set by the ICC (*www.color.org*) make it possible to accurately interpolate color from one device to another. They also confirm the notion that industry standards bodies can produce more than abstracts and policy pronouncements. Use of the IT-based industry standard offers customers lower prices, quicker execution times and consistent output across different media.

Here's how it works.

A spectrophotometer, an instrument for measuring color samples that you can get courtesy of your local printer,

uses color outputs from your different devices to create ICC profiles that are calibrated to that printer's press. Once the devices, drivers, operating systems and applications are profiled, they're translated into something called a common color space that's embedded in the ICC profile. (ICC profiles are supported by graphics applications such as Adobe's Photoshop, Illustrator and InDesign.) I/O devices can read this translation, making it possible to match results against offset, gravure, ink-jet and laser printers as well as CRT and LCD displays and video projections. In addition, ICC profiles can note the device link and named colors such as those found in Pantone's and TrueMatch's color libraries.

Dave Wilson, general manager of Oxnard, Calif.-based Venture Printing Co., says clients who install ICC profiles on their own computers will reduce surprises at the press and realize savings by eliminating multiple rounds of proofing.

And that way, what you see is what you get.

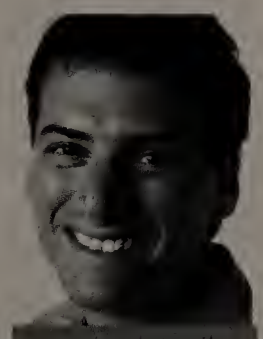
ARI KAPLAN

# Sharing Is Nice, but It's Also a Crime

COURTS in the U.S. are reportedly issuing about 75 subpoenas per day at the request of the music industry in its fight against anonymous users of peer-to-peer software. The question now is, When will grand juries begin handing down indictments? That's right, indictments, as in, Go to jail, go directly to jail, do not pass go, do not collect 200 MP3s.

In a recent telephone conversation, Rep. Anthony D. Weiner (D-N.Y.), a member of the House Judiciary Committee's Subcommittee on Courts, the Internet and Intellectual Property, commented that "the marketplace is ripe for criminal prosecution of digital file sharing because the problem is getting worse and having a more dramatic impact on the economy."

Until recently, companies wanted their employees to avoid peer-to-peer activities at work to eliminate distractions, avoid network slowdowns, minimize security risks and slow the spread of viruses. Now they must also be concerned about facing civil penalties for contributing to copyright infringement. Imagine the public relations nightmare that a criminal prosecution of an employee would cause, especially if he used the company's computer to commit the crime.



ARI KAPLAN is an attorney and a freelance writer in New York. He can be reached at ari@arikaplan.net.

Years ago, there was an interesting loophole in the Copyright Act — people who intentionally distributed copyrighted material over the Internet didn't face criminal sanctions if they didn't derive any profits from their actions. In 1997, however, the NET (No Electronic Theft) Act amended the law so that financial gain was redefined to include the mere expectation of receipt of anything of value, which specifically included other copyrighted material. Now it's a federal crime to share (not just sell) copyrighted files.

On July 16, the Author, Consumer, and Computer Owner Protection and Security (ACCOPS) Act of 2003 was introduced to further amend the Copyright Act. Under ACCOPS, a single file upload to a file-sharing site would meet the 10-copy, $2,500 threshold of felonious copyright infringement. Penalties could include up to five years in jail and as much as $250,000 in fines. Weiner, a co-sponsor of the bill, warned that "there is going to be an increasing focus on using the tools of the law to stop this problem."

Corporations should be especially concerned, given the study released in mid-July by Ottawa-based AssetMetrix Inc. (download a PDF at *www.assetmetrix.com/pdf/p2prisk.pdf* or see story at QuickLink 40012), which showed that of 560 companies polled, three quarters had peer-to-peer software loaded onto their systems. "P2P file sharing has been elevated from an IT-related issue to an executive issue. CEOs and CTOs are fearful of the legal liabilities and having their corporate names dragged down by use of these services by their employees," says AssetMetrix President Paul Bodnoff.

In order to avoid the spotlight, IT managers should do the following:

- Implement programs to detect and block P2P access (though they aren't foolproof).
- Perform random keyword searches of files that are stored throughout the network for illicit materials.
- Scan networks to determine how many computers use P2P programs, how many files have been transferred and how much space those files have consumed.
- Limit the amount of hard drive space or the number of CD-RW drives available to employees.
- Launch an aggressive educational program to alert employees to the company policy on file sharing.

By taking these proactive steps, companies may avoid association with the first criminal prosecution for file sharing. After all, the Department of Justice doesn't accept "get out of jail free" cards.

## WANT OUR OPINION?

More columnists and links to archives of previous columns are on our Web site:
**www.computerworld.com/columns**

# READERS' LETTERS

## DHS Didn't Have to Choose Microsoft

**ACCORDING TO** the headline of your July 21 article, "DHS Had Little Choice but to Sign Microsoft Deal, Despite Security Flaws" [QuickLink 39989]. What about Mac OS X on the desktop and the National Security Agency's security-enhanced Linux servers? Either a lazy IT hack didn't want to put forth the effort to implement anything other than another layer of Microsoft "insecureware," or this was a case of good old-fashioned Washington deal-making. What bothers me is the implication by the DHS IT people that changing to anything but Microsoft software would cause the end of the world as we know it. They ought to talk to Wall Street, because Linux rules everywhere that security and stability are concerns.

**David A. Gregory**
*Marion, Ark.*

**THE DHS DEAL** with Microsoft is so frightening it's like a disaster movie. According to Roger Cressey, former chief of staff of the President's Critical Infrastructure Protection Board, "They had a choice, but it would have been costly and time-consuming." This statement is ignorant and disregards the world of alternatives available. I find it especially significant that Bill Gates has the ears of people in high places.

**Joey Mele**
*Consultant, JBT Production Services, Las Vegas*

## Stolen Fingerprints No Security Threat

**IT IS CURIOUS** that Malcolm MacTaggart, who was quoted regarding the danger that fingerprints and other bioprints could be stolen by hackers, is president and CEO of a company that makes smart cards with encryption keys ["The Next Chapter: IT Security," QuickLink 39535]. Stolen fingerprints are worthless for accessing a system that uses fingerprint scanners that first detect whether a finger is "alive" before even attempting a scan. These cheap, reliable scanners, such as the Ethenticator my company uses, first detect the presence of bioelectrical activity beneath the skin caused by a person's nervous system. They also determine if real skin is being scanned. No James Bond here!

Steal all the fingerprints you want. I will even send you mine. They won't do you any good. Now, steal my smart card with all of my digital certificates on it – that's a different story.

**James Byers**
*Founder and CTO, ValidX Technologies Corp., Houston*

## Mobile Insights

**I ENJOYED RUSSELL KAY'S** recent article on Centrino notebooks ["Laptops for the Long Haul," QuickLink 39397]. However, the "standard" pricing quoted in the article is somewhat misleading.

We recently performed an evaluation for our corporation and quickly narrowed our choices to two computers that were reviewed in the article, the Dell and the IBM ThinkPad. In a competitive bid situation, the price difference between these two contenders is negligible. I would encourage your readers to aggressively negotiate with vendors. Even if the order is in the hundreds and not thousands of units, the pricing does change.

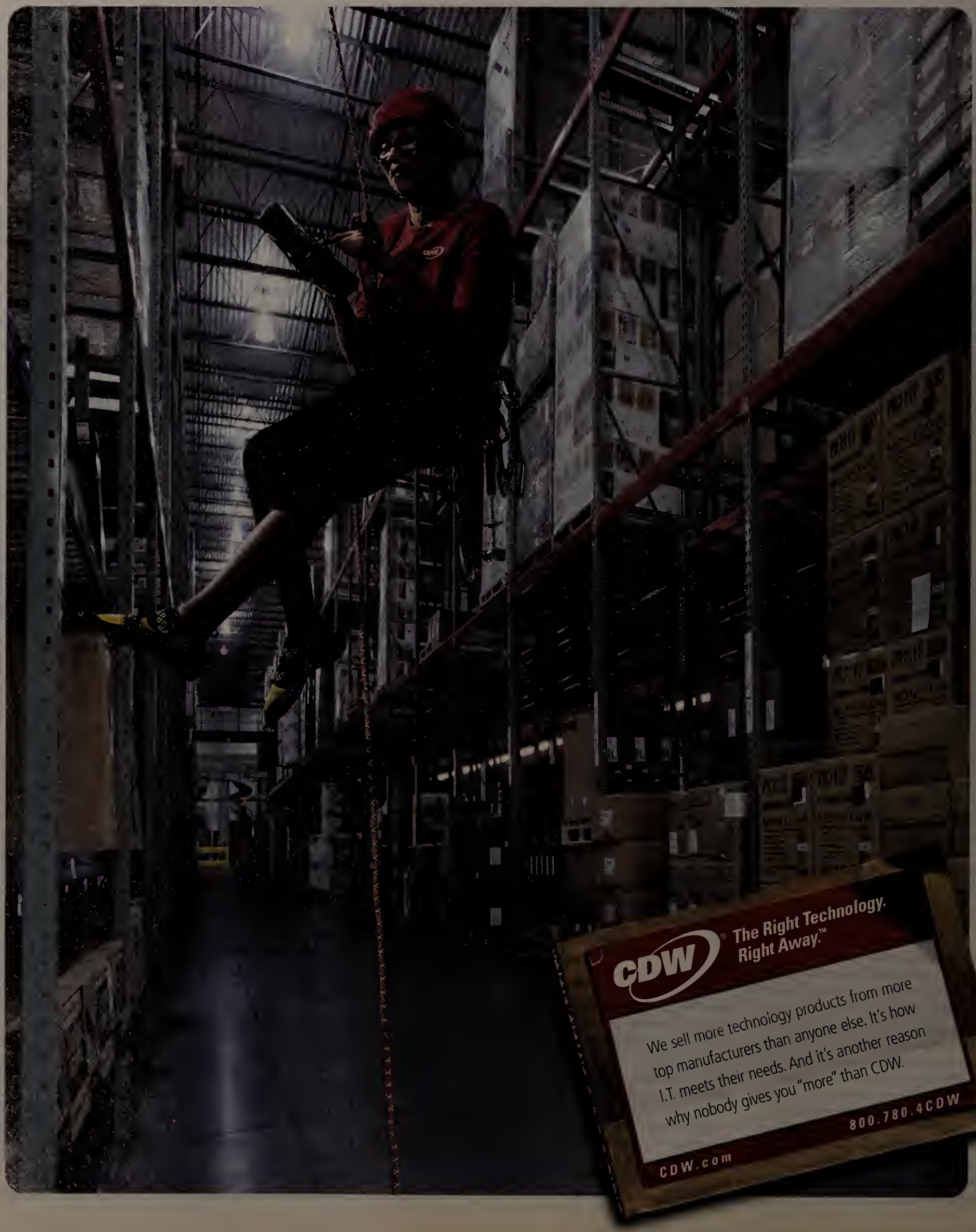
And while on the topic of mobile devices, let me say that the only way that a Wi-Fi service will make money is if it's offered for free ["Businesses See Wi-Fi as Potential Lure," QuickLink 39794]. It's ridiculous to assume that I, as a business traveler, am going to sign up for monthly plans with various providers, depending on where my travels take me. However, I will go out of my way to book lodging or air travel with companies that offer Wi-Fi as an amenity.

**Paul Lourd**
*Director of IT, UST Inc., Greenwich, Conn.*

**COMPUTERWORLD** welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

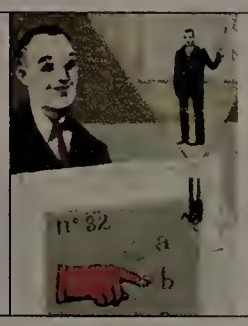
For more letters on these and other topics, go to
**www.computerworld.com/letters**

> **9:32 am.** Martha Watson counts over 1,200 name brands in order to justify the word "more" to the legal department.

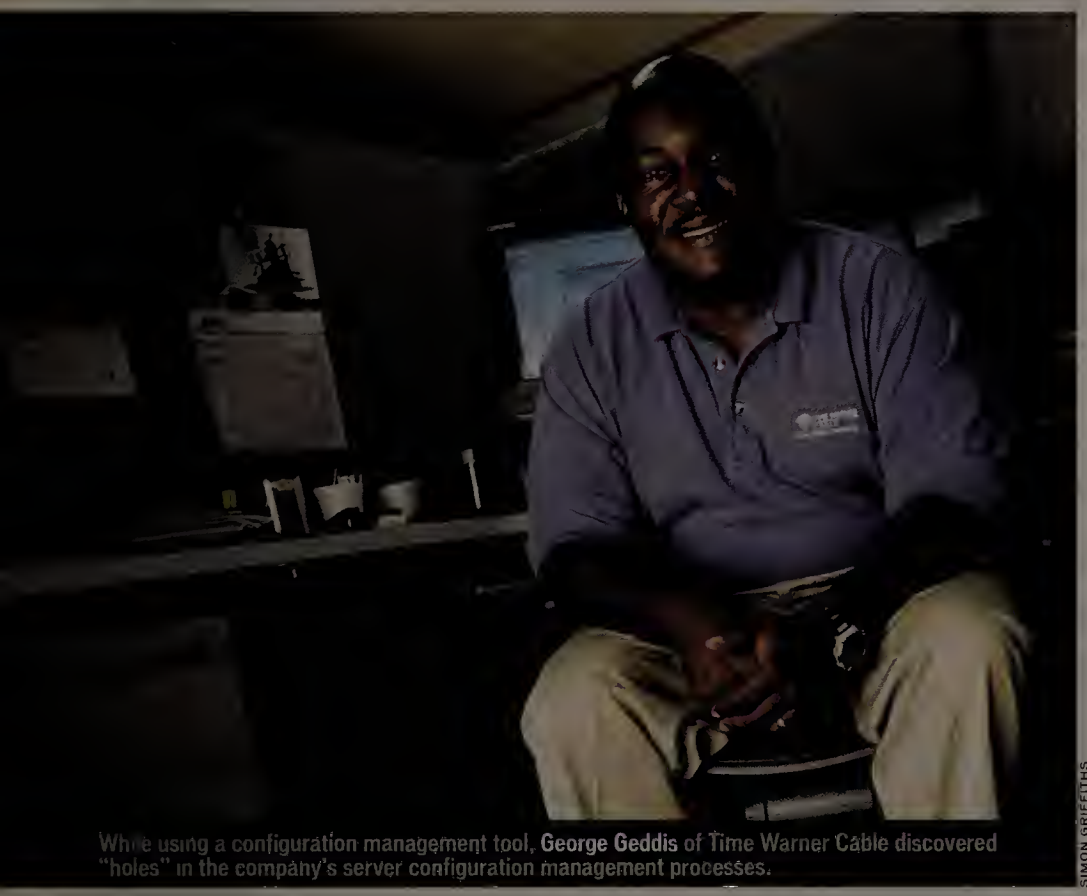



Q&A
**Putting the Pieces Together**
Jeanette Horan, IBM's chief software strategist, has her hands full coordinating the offerings of the vendor's five different software groups. **Page 28**

OPINION
**The Search for Synergy Through Consolidation**
Paul A. Strassmann says that unless your company understands the problems that can arise from consolidating IT systems and is prepared to address them, the much-vaunted synergies from consolidation won't materialize. **Page 31**



**Simulations Revitalize E-learning**
Advances in simulation frameworks and a new emphasis on blended learning are making e-learning more effective, cheaper and easier to deploy, leading many companies to apply it to on-the-job training. **Page 26**



While using a configuration management tool, **George Geddis** of Time Warner Cable discovered "holes" in the company's server configuration management processes.

SIMON GRIFFITHS

# Avoid CONFIG POLICY Potholes

Configuration tools without solid how-to policy guides will hinder server management. By Robert L. Scheier

FOR GEORGE GEDDIS, choosing software to help him configure his servers was easy. The hard part was using that tool with different types of systems.

Geddis, a business analyst at cable operator Time Warner Cable Inc. in Raleigh, N.C., ran into this challenge last December after buying Security Update Manager from Woodland Park, Colo.-based Configuresoft Inc. to distribute security patches to 700 desktop systems.

On the workstation side, Geddis is developing a set of policies completely different from those for servers for determining whether a security patch is important enough to install, how to test the patch and how to track the process so the patch can be removed if it causes problems later.

"The tool has forced us to go back to document a process to make those decisions — which is a good thing," says Geddis. He's repeating the policy-creation process with Configuresoft's Enterprise Configuration Manager (ECM), of which Security Update Manager is one component, to track the configurations and the changes needed on about 20 Windows servers as well.

He can't simply reuse the server policies for his workstations; there are far more differences among servers than there are among workstations, and the servers run more critical applications than the workstations and have different needs.

Sometimes server configuration requires compromise, Geddis says. For example, if he had a machine used for both database and Web serving, he'd have to decide between his database administrator's arguments to tighten security on the server and his Web administrator's arguments for somewhat looser security to make access easier.

Using ECM to understand the differences in configurations among his servers forced Geddis to improve his change management policies so he can undo patches or other configuration changes that might crash a server. That, in turn, he says, "highlighted the need for a better test environment. As we fill in one hole, we discover new holes" in the company's server configuration management processes.

That's why systems administrators looking to automate server configuration management can expect to spend less time choosing a tool than they do deciding on the "ideal" configuration for different types of servers and setting up procedures to test and then track the changes made to the servers over time.

Even as vendors roll out "utility computing" strategies that require server configuration tools to deliver computing on demand, they acknowledge that the tools are less important than the policies their customers follow. "If they just run around with neat tools that can allow them to apply patches on the fly or change configurations on the fly, without testing, without going through a defined process, they're going to end up with very unstable environments very quickly," says Allan Andersen, vice president of Unicenter IT Resource Management at Computer Associates International Inc. in Islandia, N.Y.

*Continued on page 22*

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*Continued from page 19*

Andrew Tessier, lead technical architect at Park Nicollet Health Services in Eden Prairie, Minn., is pleased with the mix of IBM and Tivoli management tools he has in-house. But his staff has been too busy to properly set up the automated features of those tools. "We end up doing a lot of this stuff manually, and not as efficiently" as possible, he says. He expects the situation to improve this year and next as the health care provider devotes more of its staff to automating server management.

Configuration management tools generally collect detailed information about servers, ranging from their operating systems and applications down to detailed information such as settings in the Windows Registry that control vital system functions.

Most monitor the servers for changes, such as the installation of a security patch, and in some cases can distribute software, make changes to the configuration of the servers, dynamically reallocate server capacity, update security settings or perform other actions based on predetermined policies. It's a market that Giga Information Group Inc. estimates will increase from $1.25 billion last year to $1.75 billion this year.

Just having an up-to-date inventory of what's running on his 110 Windows servers has made it easier for Ismael Pimienta, a network specialist at the University of Miami, to distribute and install patches.

"One of the biggest problems when you have a lot of servers is keeping track of who has what," he says. Using Configuresoft's ECM, he doesn't have to figure out which ones have Internet Information Server or SQL Server 2000. "I can group them by either operating system or application and roll out the patches appropriately," he says. "We're in much better control of our servers, from the standpoint of security and access and services."

## Extended Capabilities

Some tools focus on operating systems. Others spotlight applications. And still others go beyond monitoring and managing servers and desktops with at least some capabilities for monitoring and managing other components, such as storage and networks.

For example, Veritas Software Corp. in Mountain View, Calif., is adding server management to its established lineup of storage management tools. Using OpForce 3.0, an IT manager could tune the virtual disk environment of a server to optimize it for a database application and then clone that configuration to other servers on the network, says Marty Ward, director of product marketing at Veritas.

The information gathered by such tools is valuable for other purposes besides configuration management. Geddis uses the data collected by ECM for everything from monitoring whether he has enough licenses for all of the copies of Microsoft Office his company uses to storing the data needed to create emergency recovery disks for any Windows workstation in the company.

Within the next 18 months, Microsoft Corp. plans to combine its Systems Management Server and Microsoft Operations Manager products so customers can have a single view of the software inventory and system operations data provided by the respective tools, says Bill Anderson, lead product manager in Microsoft's enterprise management division.

Microsoft also recently announced its Dynamic Systems Initiative, a new software architecture designed to simplify and automate the deployment of "dynamic" applications that can use more, or less, computing and network resources as needed. The first implementation of the architecture will be Microsoft's Automated Deployment Services, scheduled for release this fall, which is designed to make it easier to deploy Windows 2000 and 2003 servers.

Pimienta uses the domain policies within Microsoft's Active Directory to control his servers' security settings. He would like to see an easier-to-use interface than that included with Active Directory's own management tools.

Realizing they need advice in addition to software, some customers are turning to the IT Infrastructure Library (ITIL). Originally developed by the British government, ITIL is a set of best practices for IT management that is gaining respect among customers and vendors. Microsoft, for example, used ITIL as the foundation for the Microsoft Operations Framework, its packaged advice for improving IT systems built with Microsoft products. Once customers begin using the processes described in ITIL, they stop "struggling" with server management and begin performing software updates and configuration changes with a success rate above 99%, says Anderson.

Configuresoft ships ECM with templates that tell customers how to configure their systems to comply with, for example, security standards from Microsoft and the SANS Institute, says Randy Streu, vice president of product management at Configuresoft.

With IT staffs reduced by layoffs scrambling to apply more frequent patches to more applications, good processes "are the only thing that stands between you and madness," says Andersen. No matter what software configuration tools vendors come up with, staying sane will require knowing how to use them right. ◗

*Scheier is a freelance writer in Boylston, Mass. He can be reached at rscheier@charter.net.*

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# Server Configuration Tools Sampler

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| **BMC Software Inc.:** Application and server management tools include Mainview for Linux Servers, Patrol for Oracle on Linux | Mainview for Linux monitors and manages Linux running on IBM's mainframe z/VM operating system. Patrol for Oracle on Linux monitors and manages Oracle database servers. | Mainview for Linux runs on IBM zSeries mainframes and its z/VM operating system; Patrol for Oracle runs on Linux virtual machines on the zSeries and on Intel-based platforms. | Patrol for Oracle on Linux starts at $1,449 per workgroup server. Mainview for Linux Servers starts at $170 per desktop. |
| **Computer Associates International Inc.:** Unicenter Asset Management and Unicenter Software Delivery | Unicenter Asset Management discovers hardware and software configurations; Unicenter Software Delivery distributes patches and other software. | A variety of Windows, Unix and Linux platforms. | Pricing for each begins at $189 per server. |
| **Configuresoft Inc.:** Enterprise Configuration Manager 4.5 | Automatically rolls back critical workstation and server configurations to preset standards if they are changed; maintains an audit trail of changes. | Windows NT Server 4.0 and higher, Windows NT Workstation 4.0 and higher, and Microsoft SQL Server 2000 or higher. | Pricing begins at $995 per server and $30 per workstation. |
| **Microsoft Corp.:** Now shipping Systems Management Server (SMS), focused on software distribution, and Microsoft Operations Manager (MOM) for event discovery/reporting | SMS 2003, due in the fall, will feature better integration with Windows and more granular asset discovery than previous versions. | Windows 9x, Windows NT Server or Workstation 3.5 or higher, and Windows 2000 or higher. | SMS begins at $1,129 per server; MOM begins at $349 per processor. |
| **Veritas Software Corp.:** OpForce 3.0 | Integrates server management with storage management; provides automatic policy-based changes to server configurations; automatically discovers network attributes to communicate and distribute software among servers. | Windows, Linux and AIX now; HP-UX within nine months. | Pricing begins at $8,000 for Intel platforms (one server managed) and at $15,750 for Unix platforms (one server managed). |

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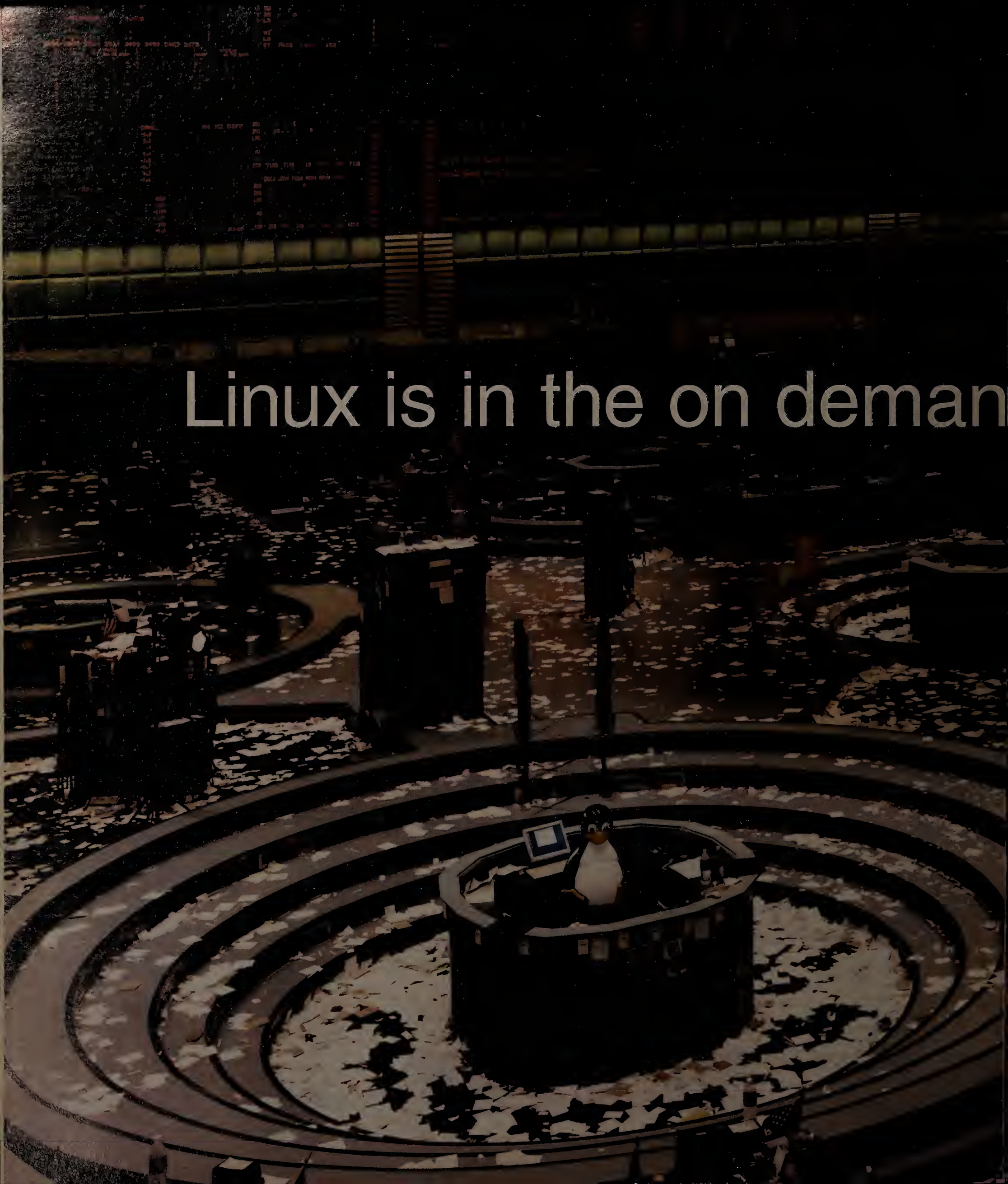
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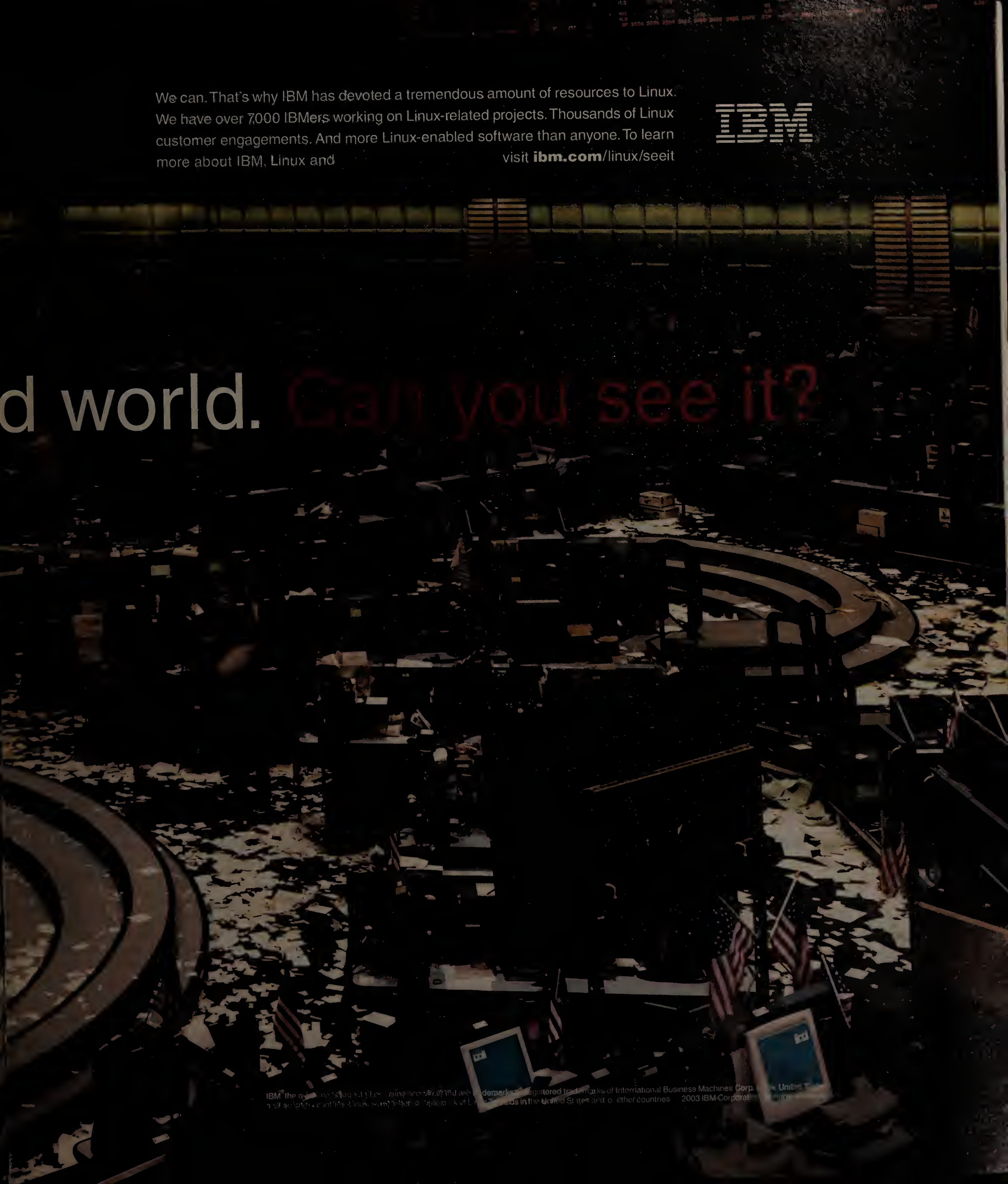
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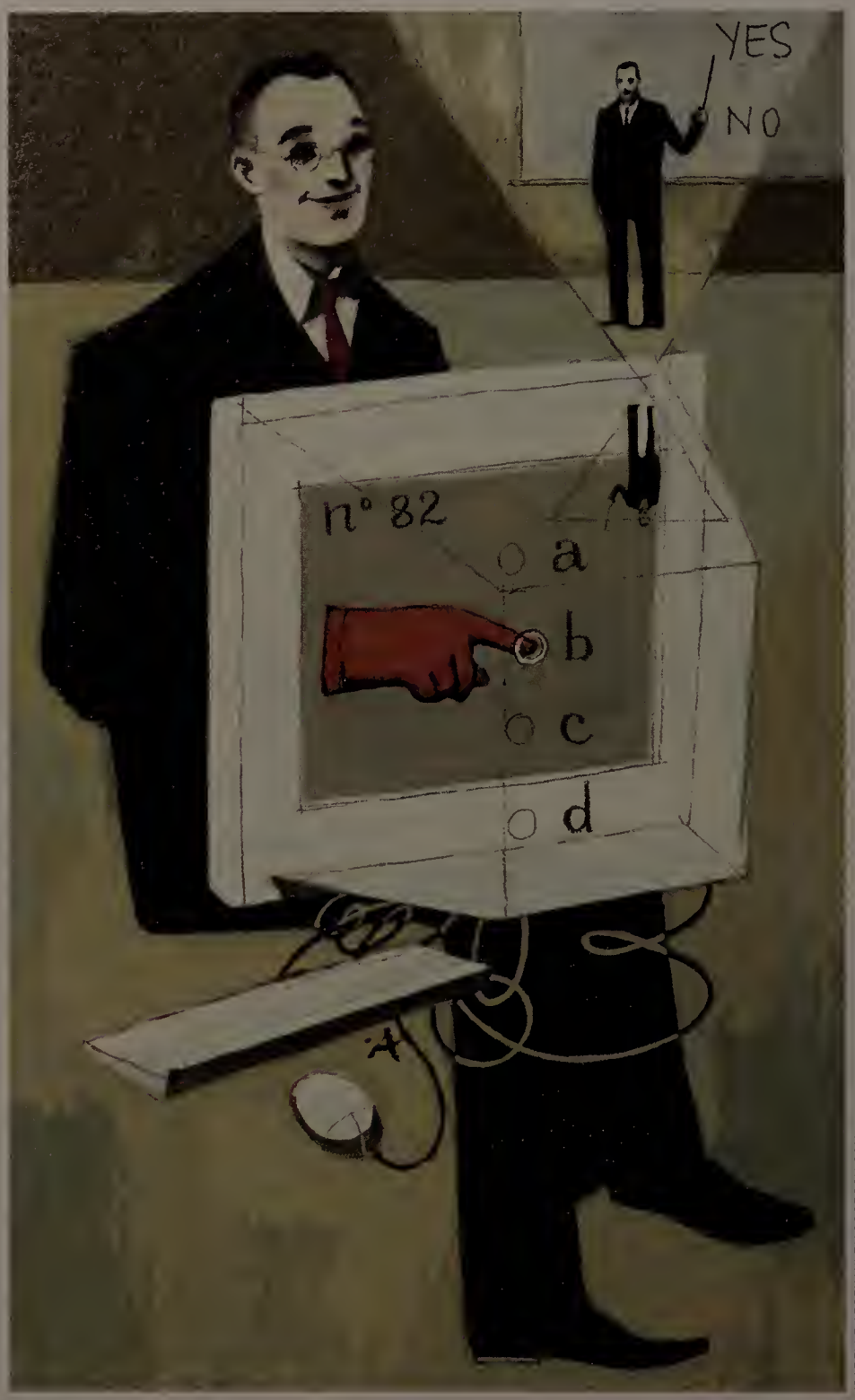


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# E-learning simulation frameworks have become cheaper and easier to deploy, leading many companies to apply them to on-the-job training. By Thomas Hoffman

When one of the 250 customer service representatives in Time Warner Cable Inc.'s Western Ohio division is unsure how to enter a customer service work order into the company's subscriber management database, he clicks on an e-learning simulation of the application to get a step-by-step tutorial.

Like other modularized simulations available through Time Warner Cable's intranet, the work-order simulation (developed using SoftSim from OutStart Inc. in Boston) lasts only about five minutes. And because users are able to toggle between the simulation and the subscriber management database, they're able to get on-the-job training in addition to their initial 15 days of classroom training.

"Once we release [customer service representatives] to the field, we'd rather not take them out of production for follow-up training, if it's something we can deliver to the desktop," says John P. Sullivan, director of training and development at Time Warner Cable's Western Ohio division, in Kettering. And although the company hasn't tried to measure the productivity gains that on-the-job e-learning simulations are providing, he says, "our call center directors are telling us how valuable this is."

Time Warner Cable's experiences with e-learning simulations are consistent with those of other organizations, such as AT&T Corp. and the U.S. Department of Agriculture (USDA).

Recent improvements in compression technology and wider availability of high-speed network bandwidth have made it possible for companies to install simulations throughout corporate networks and intranets while adding high-fidelity multimedia such as streaming audio and video, says Steve Walsh, director of marketing at X.HLP Technologies ASA in Waltham, Mass.

"It's fairly easy now to put the same information on everybody's desktops and update content as needed" using a distributed Internet-based approach, says Rich Mesch, vice president of design and development at Strategic Management Group Inc., an e-learning systems provider in Philadelphia.

"That's a real boon for business simulation, where business [requirements] can change daily and companies struggle to get a common message out to everyone," says Mesch. Plus, intranet- and network-based simulations make it easier for companies to store and track user data, he adds.

## Widely Dispersed Users

The USDA is one organization that's using simulations as a training resource. In April, the agency began rolling out Cary, N.C.-based Global Knowledge Inc.'s OnDemand simulation system to provide 60,000 geographically dispersed federal workers, including about 500 human resources managers, with step-by-step instructions on the use of PeopleSoft Inc.'s PeopleSoft 8.0 human resource management system (see "The USDA's E-Learning Simulation," next page).

With so many potential users strewn across the country, "it's very helpful that I don't have to install this on individual machines, that it's available via the Internet," says Hans Heidenreich, a USDA project director based in Beltsville, Md.

# Simulations REVITALIZE E-LEAR

## The USDA's E-Learning Simulation

HOW IT WORKS

The USDA has developed a text-based e-learning simulation to help 400 to 500 human resources managers across the U.S. learn how to use PeopleSoft's PeopleSoft 8.0 human resources management system in a production environment.

The simulation, which the USDA created using Global Knowledge's On-Demand system, gives human resources managers step-by-step instructions for entering new employee information into PeopleSoft.

When the USDA hires a new employee, human resources managers must remember more than 80 items that have to be entered on the employment form, says USDA project director Hans Heidenreich. "Even our most experienced HR people can forget a few things," he says.

But if users click on a Web-based simulation screen from their Web browser windows, they can follow instructions on what information to enter. Since the simulation mirrors the flow of business processes in the PeopleSoft system and can run concurrently with the live application, human resources managers can switch back and forth and fill out the form while the simulation is still running, says Heidenreich.

*– Thomas Hoffman*

But the biggest drivers of customer adoption of e-learning simulations have been lower costs and the emergence of reusable frameworks that let instructors create and deploy text, audio and video content on the fly.

"A couple of years ago, you might have been talking $200,000 for an hour-long course," says James Lundy, a vice president at Stamford, Conn.-based Gartner Inc. "Today, using still shots instead of custom video, you're talking $20,000." And although a high-end simulation complete with rich audio and video capabilities can run as high as $5 million, low-end, text-based simulations can cost as little as $10,000 to develop, he adds.

Overall, simulation systems don't cost as much as they used to, and Web-based technologies are getting easier to deploy and don't require an expensive, high-powered Unix workstation to run them, says Lundy. These days, companies can run Web-based e-learning simulations on a standard PC that's equipped with "a little extra horsepower," he says.

That may help explain why spending on e-learning training is projected to grow by 20% to 30% this year, even though spending by North American businesses on corporate training remains flat, according to Mike Brennan, an analyst at IDC in Framingham, Mass. Globally, annual spending on e-learning amounts to between $3 billion and $4 billion, according to Gartner estimates.

NING

### Building the Modules

The framework-based approach, where companies can use simulation templates and simply drop in content for a particular discipline (such as CRM or sales training), has been a shot in the arm for training managers. "What we've seen mature are tools that allow us to reduce the time it takes to build something out," says Garry Moore, director of e-learning at AT&T Business in Tampa, Fla.

Duncan Lennox, chief technology officer and co-founder of Waltham, Mass.-based e-learning software company WBT Systems North America LLC, says framework vendors "provide the plumbing, and the content is the water that flows through our pipes."

Over the past two years, AT&T has focused e-learning simulations in three core areas: software training (both off-the-shelf and proprietary applications), sales training and performance management. AT&T is using a template approach that gives it a simulation framework. "We pour the content into it," says Moore.

It helps that e-learning simulations themselves have gotten better. Simulations "used to be very video-game-like, and now they closely imitate the real world, some more than others," says IDC's Brennan.

Before it began developing its own e-learning simulations two years ago using a variety of framework products, AT&T relied on Macromedia Inc.'s Flash animation software. Now, says Moore, "there are a number of products on the market with [graphical user] interfaces that allow you to create simulations."

Most large, geographically dispersed organizations tend to favor a blended learning approach, where employees can receive training in a variety of formats, including classroom training, CD/ROM-based training they can do in their off-hours, and other high- and low-bandwidth approaches.

Even though providing bandwidth is part of AT&T's business, some of its employees still have low-bandwidth connections. For them, AT&T offers several e-learning options that include a TV-news-style "talking heads" motivational piece where low-bandwidth users can see still photos and text instead of video, says Moore.

### Getting Smarter

Next-generation systems will include advanced simulation engines, analogous to decision trees, "that allow the users to flow through a simulation without [the IT department] having to hard-code everything," says Gartner's Lundy.

So if a student is running a sales simulation and answers a question wrong, he says, "the system is smart enough to to take you back to a section of the course and do a review of that content, and you're not even aware that the system is doing that for you."

While many companies are bullish about the knowledge transfer that e-learning simulations have provided to their employees, most organizations are intent on sticking with a so-called blended learning environment that encompasses e-learning, classroom training and other educational formats.

Says Time Warner's Sullivan, "There's a learning curve that people go through as e-learners. Some people prefer having a person to interact with. That's why we haven't done away with instructor-led training, because that's still the most effective way to train."

### MORE RESOURCES

For a list of vendors that offer e-learning simulation software tools and related services, visit our Web site:

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## Standards Drive E-Learning Advances

The adoption of e-learning-related standards by the government and corporations has played a significant role in the advancement of e-learning simulations. The standards that are being introduced include the **Sharable Content Object Reference Model (SCORM)**, part of the U.S. Department of Defense's **Advanced Distributed Learning (ADL)** initiative, as well as several interoperability guidelines from the **Aviation Industry CBT Committee (AICC)**.

SCORM, which dictates how content must be packaged to allow for interoperability in learning management environments, "has become the de facto standard" for e-learning content and management runtimes, says Jack E. Lee, president and CEO of Knowledge Management Solutions Inc., an e-learning systems provider in Linthicum, Md.

Several standards organizations are discussing the next generation of Web-based learning architectures. The ADL Technical Team is working with IMS Global Learning Consortium Inc. and the Institute of Electrical and Electronics Engineers Inc. to explore ways to expand upon SCORM in areas such as learner information profiles, assessments, data models and application programming interfaces such as SOAP.

The AICC works on guidelines for the aviation industry in the development, delivery and evaluation of computer-based training (CBT) and related training technologies. This includes guidelines to enable interoperability between CBT systems that can be used by companies outside of the aviation sector.

Another standard, the Defense Department's High Level Architecture for Simulation (HLA), is aimed at achieving a common technical architecture for use across all classes of simulations within the department. It provides the structural basis for simulation interoperability. HLA is also being adopted by companies in the private sector, says Lee.

USDA project director Hans Heidenreich is running a simulation project to provide PeopleSoft human resources management systems training to some 60,000 workers. Heidenreich hasn't focused on standards, but he says they'll be important down the road.

*– Thomas Hoffman*

# Putting the Pieces Together

## IBM's software strategy chief looks for a way to integrate five product groups and provide a common architecture for users.

Q&A

*As vice president of strategy for IBM's $13 billion software group,* **Jeanette Horan** *says her prime mission is unifying the company's software product groups under a single architecture.*

*Horan had served as vice president for development at IBM's Lotus Software Group, but at the beginning of this year, she took on the broader responsibility of working on initiatives that span the entire software group's five brands — Lotus, WebSphere, DB2, Tivoli and Rational, a development tools company IBM acquired in the past year.*

*Horan recently spoke with* Computerworld's *Carol Sliwa about her ongoing efforts. Excerpts follow:*

**What have been your areas of focus since taking the new job?** More of our customers are looking to be able to buy the complete stack of IBM middleware. And they have these strange expectations that these things will actually work together. So from a technology strategy point of view — which is really one of the key focus areas that we have for the group — we're looking at the underlying technologies that run across all of the different brand groups and how we can move things forward such that we really can have this very integrated, interoperable stack.

If you look at the products we have in play, some of them were mainframe/legacy products that are still being used in many, many enterprise applications today. Our real focus over the last couple of years has been moving toward this open-standards-based platform based on the J2EE operation environment. What we recognized is that when you move toward that kind of a platform, we will have a lot of opportunity to reuse components. A core element of the whole J2EE programming model and Web services is to be able to take specific features or functions and express them in ways that they can be reused in the context of multiple applications.

**Can you cite examples?** There were recent Lotus-brand product announcements in the money management system and the Lotus Web-based messaging product. They are applications built on the programming model and on the infrastructure stack that we are delivering to other customers. If you look under the covers of one of those products, you will find a WebSphere engine embedded in the product that actually is the application server running those particular applications.

The challenge for us is, How do we develop and deliver technologies like the WebSphere engine itself in a way that it can be easily consumed by these other applications so that we don't have to reimplement the same functionality by decomposing the products into these componentized models? Then the other groups, the other brands, can pick up the pieces that they need and be able to build their own applications much more quickly. If you look at something like the Lotus Web-based messaging product, that went from drawing board to release in less than a year, which, for an enterprise-scale product, is pretty impressive.

**IBM has had a hodgepodge of technologies in its software products.** That certainly is where we've come from, and that's actually where just about every customer is today. If you look at the investments customers have made in enterprise applications over the last 10 years, they have applications that are built on different stacks and different infrastructure layers. So the core part of our strategy is to rebase all of our own applications and our own products onto that common infrastructure layer.

**And the common infrastructure layer is Java?** Absolutely. It's a J2EE-based model.

**Are you doing 100% of the product development in Java?** Not 100%. Some of our products are still written in C, C++, and we'll make decisions that are appropriate for the particular product or technology. Where we're rehosting something on WebSphere, it's going to stay where it was, [with] whatever language it was in. Where we're starting from a blank sheet of paper, we decide what's the appropriate technology. With something like the Lotus Web-based messaging product, we chose Java.

**What technologies are you using to connect components?** In some cases, we are expressing everything as Web services so they can be called using SOAP calls, WSDL [Web Services Description Language] calls, if an application developer chooses to do that. But in many cases, when we were using [Enterprise JavaBeans] or we were building out to the component layer in WebSphere itself — depending upon what the application specifically needs, which services it needs, what's the most efficient way, what's the highest-performance way — we really are looking through each application at whatever is the right technology for them to use.

**Are you wrappering or completely rearchitecting products?** There are many applications or infrastructure middleware that will remain essentially as they are but will then have the wrappers and interfaces. With things like MQ or CICS, we're not going to rip those apart. They're stable application environments, and we want to be able to allow them to participate in the new model.

But where it makes sense for some of our other technologies, it really is a rearchitecture. And you see in many cases where that's happening in the Lotus brand, in the Tivoli brand, [and] with a number of the acquisitions that we've done.

**What will be the ultimate benefit for customers?** In the enterprise, look at the investments that they've made over the last 10 years with their enterprise applications. They tell us that they're getting some benefit out of that, whether it's an SAP or a PeopleSoft or a Siebel implementation. But what they are not seeing is the real ability to drive a business process across all of those enterprise applications. That's what they're looking for.

The other thing that I see is this notion of extended value chain and how do you relate to your suppliers or your channel. Our customers are saying, "OK, I've done the simple things. I've put up a portal so that my dealers can communicate with me. But what I really want to do is take it to the next level. I want a new level of integration and automation with all of their systems, because a lot of times, they can't dictate what's going on in their suppliers and dealers." ◗

### JEANETTE HORAN

**Age:** 48

**Title:** Vice president of software strategy, IBM

**Background:** Prior to joining Lotus, Horan spent four years at Digital Equipment Corp., where she was vice president of development for the AltaVista business. She has also served as an executive manager for the Open Software Foundation.

### LOOKING AHEAD

For more of Jeanette Horan's comments on IBM's software strategy, visit our Web site:

**QuickLink 40281**
**www.computerworld.com**

FUTURE WATCH

# SMART ROOMS

## IT-assisted workspaces can boost design productivity.

**By Gary H. Anthes**

IN JUST FOUR MONTHS, students at Carnegie Mellon University (CMU) have built an "interactive physical and digital workspace," a prototype meeting room that could herald the future of interactive collaboration by design teams.

At first glance, the Pittsburgh-based university's "Barn" could be any meeting room, with tables and chairs and a whiteboard. But take a closer look and you'll see cameras, projectors, microphones, speakers and electronic pens mounted on the walls and ceiling.

You'll see project team members log into the Barn by presenting wearable radio-frequency identification tags to an electronic control panel. They wear sensors that identify them and track their locations as meetings unfold. At their first meeting, one of them will enter some group identification data, establishing a persistent virtual workspace for the life of the project. Fed by information from numerous devices, the Barn begins recording the meeting in its audio, video and data logs.

CARNEGIE MELLON UNIVERSITY

meet in the Barn at CMU to electronically share ideas on the "Thinking Surface." On-ceiling cameras and pattern-recognition software read head-mounted "badges" to identify the participants and track their locations.

A student approaches the "Thinking Surface" — an intelligent interactive display built into a digital whiteboard — and sketches out an idea, which is then recorded in the meeting log along with her comments to the group. In response, someone at a table uses an electronic pen to circle a drawing on his PC, causing it to be projected onto the Thinking Surface, where it's also recorded.

"Social geometry" software knows the locations of attendees and adjusts lights and microphones accordingly.

When a decision is made or an important concept comes up, someone hits the TWI — "that was important" — button on his computer, adding a flag at the appropriate place in the meeting logs. A member of the group who was unable to attend can, via the Barn Web portal, later fast-forward through the meeting remotely, pausing at TWI markers. Or he can "attend" the meeting — or any past meeting — in its entirety, listening to and reading the meeting logs and studying images saved from the Thinking Surface.

The Barn and its Thinking Surface have been constructed to facilitate meetings whose goal is to produce some kind of design, whether software, hardware or a consumer product, says Asim Smailagic, a faculty adviser for the project. "It's for brainstorming, idea generation, knowledge generation and knowledge transfer," he says.

The Barn is noteworthy for the sheer number of features researchers thought to add to it, says Ted Selker, a professor at the Media Lab at MIT. "It's a typical CMU project. They are wonderful at doing the kitchen sink of *x*."

Selker praises the Barn's capability to record all aspects of a meeting. "We all feel disturbed about the ephemeralness of conversations. If you have a meeting that you don't talk about again for two weeks, you have basically forgotten it. It didn't exist."

Dan Siewiorek, director of the Human-Computer Interaction Institute at Carnegie Mellon, says large project teams with semi-independent subgroups face a coordination problem — how to ensure that the groups don't make conflicting decisions that that must be undone later, sometimes at great cost.

Siewiorek says future Barn research will tackle that problem by letting a liaison in each subgroup audit the meetings of other groups from afar. But the liaison won't have to listen to the entire meeting, because the Barn will recognize keywords that the person might be interested in and alert him when a topic of interest arises.

"The Barn software could be checking conversations and ideas and things appearing on the whiteboards, and if something comes up that relates to another group, the focus of the remote person could be drawn to the current conversation," Siewiorek explains.

Work on IT support for collaboration goes back decades, and the landscape is littered with cool ideas that never went anywhere, says Daniel Bobrow, a research fellow at Palo Alto Research Center Inc. He says IT researchers often put technology ahead of human factors. "They have a solution they think will help, then they go looking for a problem," he says. "They put in all the technology bells and whistles they can think of, but when they get done, it doesn't fit the practices of the people."

But Siewiorek says CMU researchers consider human issues first, then technology, and nontechnical project advisers at the school help with this. For example, one of them suggested that Barn meeting attendees be given bar stools to sit on rather than ordinary chairs. "Then they are more likely to get up and walk over to the Thinking Surface and draw, rather than sit and type at their computers," he says.

### Why the Barn?

**Traditional meeting rooms have several drawbacks, including these:**

- Nomadic teams can lose knowledge artifacts.
- It's difficult to combine digital and physical information.
- There isn't enough wall space (or "thinking surfaces").
- Physical information (like handwritten notes or drawings) can be left behind.
- There's little support for building of shared arguments.
- It's hard to integrate group work with individual work.

### THINK HUMAN FACTORS

Why does technology for collaboration often fail? To find out, visit our Web site:

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# Data Center IDS Project a Nonstarter

## Policies, product limitations trip up plans for intrusion-detection system monitoring. By Vince Tuesday

SECURITY MANAGER'S JOURNAL

MY COMPANY has good security, but at times it's too good. Occasionally users complain that the level of security is too high. When that happens, we try to work with them to find a way that they can still get their jobs done. But despite our best efforts, we can't always find a solution. When that happens, either we in the IT security group have to bite the bullet and accept the risk, or the users must accept the fact that they can't do what they wanted.

Recently, however, we were on the receiving end, when a security project was derailed by product limitations and the policies of our networking team.

The problem came up as we began outfitting and configuring a new data center. It's always a pleasure to work on a "greenfield" IT project because you can avoid compromises made by others in the past. It seemed the perfect time to update and deploy improvements to our monitoring infrastructure.

We currently run host-based intrusion detection on all desktops and critical servers, and we run network-based intrusion detection at our perimeter entry and exit points. Although Gartner Inc. analysts recently predicted the imminent demise of intrusion-detection systems (IDS), they have worked very well for us, and we're sticking with them in our new data center. We do see a threat from the increase in encrypted network traffic that's blinding our IDSs. Despite this, our experiences tell us that a network IDS will continue to be valuable.

We know that our IDSs would work even better if we included them on internal network segments. That would provide protection against insider threats, in addition to what we get from our host-based IDS.

Until now, we've limited our IDSs to the perimeter networks because the devices could only handle those low-bandwidth segments and because we have a relatively small number of external points. But our newer IDS products support gigabit speeds. Coping with high traffic volumes isn't an issue, although we do have to conquer the complexity of getting the data to our sensors.

### Switch Disconnect

Many years ago, we helped push the deployment of a switched Ethernet LAN. With properly configured switches, data goes only to those systems involved in the conversation. Traditional managed hubs, in contrast, send a copy of the data to every system in a LAN segment and only the intended recipient reads it.

> **We'd love to . . . use the span ports to collect data, but our network monitoring systems are already using them.**

Switches are great for performance and for protecting data in transit, but we need centralized access to all the data in transit so we can monitor it. In the old days, we could configure an IDS server's network adapter to run in promiscuous mode and search the traffic for bad behavior. This doesn't work when connecting to a switch.

Network managers need to see traffic in order to troubleshoot problems on the network, so network equipment vendors typically include a switch port analyzer, or "span" port, that can take a copy of all the data and send it out over a single connection. We'd love to configure our IDSs to use the span ports to collect data, but our network monitoring systems are already using them.

To get around this, some vendors sell taps, which read the network data without altering the flow. In theory, we could tap the span port data as it heads to the network troubleshooting system and send a copy to our IDS. The problem is that every tap we can find isn't designed for a data center.

Most devices have one of those tiny 9-volt power converters that you used to see on calculators. I worry that whenever the wire wobbles, the power on the tap will go on and off and introduce errors on the tapped line. You can imagine how happy our network team would be if we introduced errors on the systems they use to try and find the real errors. This approach was a nonstarter.

Cisco Systems Inc. sells an IDS card that fits into a slot in its switches to monitor the switch traffic. This would solve the problem, but the cost of equipping all of our switches with these devices is prohibitive. Also, we don't like Cisco's management tools for its IDSs and prefer those from our current vendor.

There are vendors that sell specialized systems to copy flows to multiple ports and even tune which data gets sent so you don't overload the IDS with encrypted data it can't analyze. However, our network team has a simple rule: If it doesn't have a Cisco badge, it doesn't go on the network.

The latest Cisco products let you have more than one span port on a switch, but we've had a few performance problems, and the code is relatively untested in our environment. We don't want to put potentially unstable code into a new data center. Perhaps it's the perfect long-term solution, but we'd like to get the expanded monitoring in during the deployment rather than add it later.

The last idea my team and I had was to plug the span port into a managed hub and then use that to copy the data and send it to the troubleshooting box and our IDS. We would have an extra item taking up space in the cabinet, but it would be stable and fairly cheap, since hubs are old technology. It would even pass the Cisco badge test, we thought.

But there was one problem: Cisco doesn't sell managed hubs anymore. We've got a fair number of spares around that we could use, but these were taken out of service and are destined for the trash. And putting worn and scuffed equipment into the new data center doesn't seem like a good idea. So it's back to the drawing board. Meanwhile, if any readers have better ideas, I'd like to hear them.

### WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Vince Tuesday," whose name and employer have been disguised for obvious reasons. Contact him at vince.tuesday@hushmail.com, or join the discussion in our forum: **QuickLink a1590**

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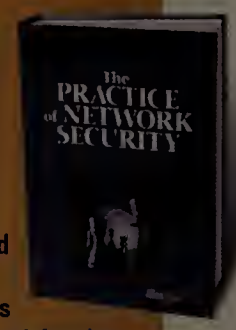
## SECURITY LOG

### Security Bookshelf




***The Practice of Network Security*, by Allan Liska, Prentice Hall PTR, 2002.**

**Many books on network security are either so broad that they don't provide any details or they're so focused that they miss important issues. Liska has produced a useful summary of key network security issues, yet he also includes practical tools and examples. He covers the configuration of networking equipment from market leader Cisco in some detail, but he also discusses products from other vendors, particularly Juniper Networks Inc. This book is a must-have for administrators using equipment from those vendors, and it's a quality reference for all networks.**

***– Vince Tuesday***

### Mailblocks Offers Antispam Service

**Los Altos, Calif.-based start-up Mailblocks Inc. has announced Challenge/Response 2.0. The service collects valid responses from legitimate e-mail senders in a master list, according to Phil Goldman, Mailblocks' CEO. Senders who complete a successful challenge/response exchange for a single Mailblocks user won't be challenged again, provided that they don't start sending spam. The service is $9.95 annually per user.**

### ArcSight Adds XML

**Sunnyvale, Calif.-based software vendor ArcSight Inc. has announced support for the Intrusion Detection Message Exchange Format and the Incident Object Description and Exchange Format within its Distributed Security Architecture. The standards define what information messages should include in order to avoid compromising privacy and confidentiality.**

## BRIEFS

### Voyence Offers Net Configuration Tool

**Voyence Inc. in Richardson, Texas, this week plans to announce its integrated Extensible Device Configuration Management Engine, which is designed to help manage the configuration of network devices from more than 20 vendors. The appliance runs on Linux and will be free to existing Voyence customers. The base price is $50,000 for new customers.**

### Compuware Updates Java Tools

**Detroit-based Compuware Corp. last month announced Version 3.0 of its OptimalJ development environment for enterprise Java applications. New features include plug-ins for IBM's WebSphere Studio Application Developer and Sun Microsystems Inc.'s Sun ONE Studio. With the new release, Compuware has added a Developer Edition of OptimalJ that includes code-visualization capabilities and an application structure analysis tool. Pricing starts at $800 for the Developer Edition, $5,000 for the Professional Edition and $10,000 for the Architecture Edition.**

### Unisys, EMC Offer Recovery Services

**Unisys Corp. in Blue Bell, Pa., has partnered with EMC Corp. in Hopkinton, Mass., to provide Unisys ES7000 and ClearPath mainframe customers with disaster recovery services based on EMC software. Unisys said it has also become a member of EMC's Authorized Services Network.**

### Software Helps With Compliance

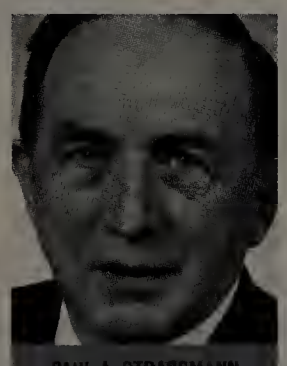
**Colorado Springs-based Optika Inc. last week introduced its Acorde Compliance Suite, which is designed to help companies comply with legislation such as the Sarbanes-Oxley Act.**

PAUL A. STRASSMANN

# The Search for Synergy Through Consolidation

THE WORDS *synergy* and *consolidation* are always linked with mergers or acquisitions. Public announcements promise huge cost savings. Magazine articles celebrate success. There is, however, no evidence that the promises are actually kept. I don't know of a single verifiable case where IT-related preconsolidation indicators were compared with postconsolidation results.

For the past 20 years, I have been tracking the IT costs of corporate information management. For instance, in a *Computerworld* column in May 2001 [QuickLink 19925], I expressed doubts about the effectiveness of J.P. Morgan's outsourcing deal with four IT vendors. My observation couldn't be tracked further because at the end of 2000, J.P. Morgan merged with the giant Chase Manhattan bank, and its reporting as a separate firm ceased. It just so happens that the combined bank (J.P. Morgan Chase) restated its historical financial reports to reflect the combined results. Expenses for "technology and communications" increased from $2.17 billion in 1998 to $2.55 billion in 2002.



PAUL A. STRASSMANN (paul@strassmann.com) believes that the best way to achieve synergies is to introduce innovation and not a fusion of obsolete solutions.

The following is a comparison of consolidated premerger (1998-2000) results with postmerger (2001-2002) data. The analysis is based exclusively on the bank's reports to shareholders and to the Securities and Exchange Commission. It offers a rare glimpse into how the results from IT consolidation can be evaluated (see chart below).

At the time of the merger, the bank's top management said, "We believe this merger will create pretax synergies of $3 billion, $2 billion of cost savings and $1 billion of incremental net revenue." Most of the synergies would materialize within two years, company officials said. A significant share of the savings would come from a consolidation and integration of information systems.

The table below shows that after the merger, the combined banks had lower revenues and much lower profits. However, it's the deterioration in IT-related ratios that concerns me. The percentage of change in the indicators should reveal if consolidation delivered synergies.

To demonstrate gains, at least one of the IT-related ratios would have to show improvement. IT/compensation should decline with rising efficiencies, but it increases 6%. IT/revenue should decline, but it increases 26%. IT/profit and IT/shareholder equity should decline, but they increase 294% and 3%, respectively. Every indicator has turned in the wrong direction. Though deteriorating postmerger business conditions could be used as an excuse for the declines in revenues and profits, the unfavorable rise in the IT ratios suggests that the expected synergies didn't show up.

**Is This Bank Headed in the Wrong Direction?**

| Performance Indicators | Premerger Avg., 1998-2000 | Postmerger Avg., 2001-2002 | Change |
|---|---|---|---|
| Net revenue | $28.53M | $25.72M | -10% |
| IT | $2.27M | $2.59M | 14% |
| Net income | $5.9M | $1.68M | -72% |
| IT/compensation expense | 21.5% | 22.7% | 6% |
| IT/net revenue | 8% | 10.1% | 26% |
| IT/profit | 39.2% | 154.4% | 294% |
| IT/equity | 6.1% | 6.2% | 3% |

Claims of IT savings from consolidations will remain doubtful unless there is a well-defined path showing how the gains would be delivered. It's my understanding that J.P. Morgan Chase didn't anticipate the enormous obstacles to achieving systems integration. How much of this was because of "governance" (that is, organizational politics) and how much came from the technical inability to merge the islands of automation will remain a well-hidden story.

The current economic climate favors mergers and acquisitions. In each case, synergy is cited as a primary incentive to proceed. This is particularly true when damaged communications firms or hard-pressed financial services firms combine and centralize IT management. The federal government has also started consolidating information-handling for greater efficiency and to minimize the risk of technological failures. In each case, savings are expected to come from lower IT costs.

The disappointments from the amply funded and technologically sophisticated J.P. Morgan Chase IT consolidation should serve as a warning. The road to synergy is studded with mines. Top executives shouldn't promise IT improvements unless they have taken the trouble to understand what it will take to get the job done.

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**Readiness Relies on Talent**
The Navy is giving its personnel control over career options and training in an effort to retain talent and improve its readiness, says Rear Adm. John Cryer. **Page 36**

**'Team Schein' Saves the Day**
Henry Schein Inc.'s CIO, Jim Harding, recruited an in-house data warehouse team after a consulting firm went bankrupt six months into the project. **Page 38**

**Nurture the New Project Manager**
New IT project managers need patient, supportive supervision while they adjust to their new roles, says columnist Paul Glen. **Page 40**

# TIME TO OUTSOURCE ERP?

OUTSOURCING WATCH

BY BARBARA DEPOMPA

**ERP systems aren't much fun to buy, install, deploy or maintain. In fact, some of the biggest horror stories in corporate IT have involved ERP systems. And since they're widely used in large corporations, they hardly provide much competitive advantage anymore.**

**Meanwhile, some midsize companies are just starting to consider investing in (or upgrading) ERP systems, and they're wondering whether they want to go through the hassle by themselves. The benefits and trade-offs of outsourcing ERP were hot topics at Gartner Inc.'s recent Midsize Enterprise Summit, says Gartner analyst Robert Anderson.**

**Typically, an outsourcer charges a monthly fee to host an ERP application and deliver it as a service via a secure network link. The fee can range from $300 to more than $1,000 per user, depending on the vendor, configuration and level of services, Anderson says.**

**The sluggish economy, IT talent shortages, the complexity of ERP and executive skepticism about the value of in-house IT are all contributing to the interest in ERP outsourcing. "Increasingly, business executives ask, 'Is there an intrinsic value to the ownership of technology? Or can an equivalent value be obtained via a packaged or outsourced approach?' " says Jeff Kaplan, managing director of ThinkStrategies, a consultancy in Wellesley, Mass.**

**On the other hand, CIOs at large companies often say ERP is at the core of the business and is too mission-critical to farm out. They variously describe it as the backbone, central nervous system or brains of the company.**

**Should you outsource ERP? The decision varies by company, of course. Here's a look at the debate and factors to consider.**

## YES!

**THE BIGGEST ADVANTAGE OF OUTSOURCING ERP** is that doing so gives you the ability to focus on the company's core mission rather than fiddling with ERP software.

In mid-2001, Mission Linen Supply Inc. in Santa Barbara, Calif., faced a major technology overhaul because its aging mainframe couldn't provide the flexible reporting the business increasingly needed.

A privately held company that provides linen and uniform services, Mission Linen had grown into an operation with more 3,000 employees in 50 locations. But the business hadn't kept pace technologically. After examining the options — including the purchase of a new server system and ERP software — it became clear that the training, additional personnel and capital expenditures required for new ERP software were unattractive. "With the amount of work involved in hiring and bringing our data center up to speed, it seemed much riskier to buy an ERP solution

*See Yes! page 34*

RICH LILLASH

## NO!

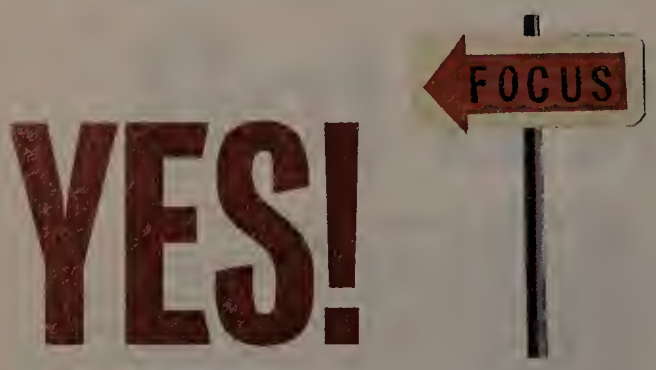
**THE BIGGEST DISADVANTAGES TO OUTSOURCING ERP** are the risks involved in not controlling daily ERP operations in-house — risks that include devastating downtime and the loss of valuable operational data.

Informatica Corp. in Redwood City, Calif., considered such risks to be too great.

Informatica currently uses PeopleSoft Inc.'s ERP software. Three years ago, the company outsourced the human resources portion of the suite, because "if HR goes down, the business will still continue to run," says Tony Young, senior director of IT applications. But Informatica draws the line there.

Two things keep Informatica from moving more of its ERP applications to an ASP. First, because Informatica is in the data analytics business, Young says it already has a "world-class data center." Second, some senior executives perceive outsourcing as simply too risky. "We have no plans to outsource any other ERP-

*See No! page 34*




**"With the amount of work involved in hiring and bringing our data center up to speed, it seemed much riskier to buy an ERP solution than outsourcing the entire project.**

**ROBERT SZERWO,** CHIEF FINANCIAL OFFICER, MISSION LINEN SUPPLY INC.

*Continued from page 33*

than outsourcing the entire project," says Robert Szerwo, chief financial officer at Mission Linen.

A thorough investigation of outsourcing alternatives led the company to choose SAP AG software hosted by BlueStar Solutions Inc., an application service provider (ASP) in Cupertino, Calif. The selection process even included meeting BlueStar's investors and CEO Tom Kelly to make sure that the company would be in the ERP outsourcing business for the long term, Szerwo says.

The upside of the arrangement is that Mission Linen doesn't have to worry about managing its ERP software, Szerwo says. The downside is that — as with all outsourcing deals — any "gray areas" in the contract can cause headaches, says Tony Mancuso, SAP project manager at Mission Linen.

For example, when company growth exceeded expectations, Mission Linen was forced to upgrade to a new server — something that wasn't contemplated in the original contract, so it cost more, Mancuso says. He advises other businesses to estimate growth potential over the life of the contract to avoid any additional costs.

For some companies, especially midsize ones, it often seems impossible to compete with the big companies for the IT talent needed to install an ERP system and keep it humming. San Jose-based Lumileds Lighting, a joint venture of Agilent Technologies Inc. and Philips Lighting, was launched in late 1999 without a budget for an IT staff, though it got one later. "That's how we came to consider outsourcing. We had chosen J.D. Edwards for our ERP software platform, but weren't sure how to source and run it," says Neil Bostock, CFO at Lumileds.

Because Lumileds didn't have the money, or the desire, to gain expertise in running a data center, Bostock turned to BlueStar to handle all of Lumileds' ERP operations. "ERP is clearly mission-critical. If those applications went down, we would be dead. But we also know we surely couldn't do better on our own," he says.

Bostock says BlueStar has a far greater ability to manage daily ERP operations and a greater depth of resources to handle situations as they arise than Lumileds would if it ran an in-house system. In June, Lumileds signed on for another three years with the outsourcer. Bostock says he's not sure his company could run ERP in-house for less money than what it has paid BlueStar so far.

For both customers, the only real concern about their choice of outsourcing supplier was a general fear about BlueStar's longevity, given the past two years of economic and IT market troubles. But both say their concerns have subsided and they're pleased with the services received.

**"We would never consider [outsourcing ERP], because we have always been taught you never hand off the brains of your operation, though you may want to farm out for extra arms and legs.**

**MIKE GAYNOR,** CIO, FEDERAL-MOGUL CORP.

*Continued from page 33*

related applications at this time," says Young.

Mike Gaynor, the CIO at Federal-Mogul Corp. in Southfield, Mich., is also in that camp. An automotive parts company, Federal-Mogul is facing a monstrous ERP integration challenge: It has grown quickly via acquisitions and needs to consolidate at least some of its 27 ERP implementations.

Gaynor says there's no way an outsourcing contractor could possibly do what needs to be done to consolidate, manage and maintain those critical applications. It comes down to trust and control.

"We feel no outsider could gain enough of our trust to know what it takes to run our business and understand why things need to be done a certain way. We must control the business operations, the business-process development, project management and change management. We can't hand that off," he explains.

So far, Federal-Mogul has managed to integrate three SAP ERP systems into one, and it plans to consolidate nine SAP ERP systems in Europe into one in about a year. "We would never consider [outsourcing ERP applications], because we have always been taught you never hand off the brains of your operation, though you may want to farm out for extra arms and legs," says Gaynor.

One thing Gaynor would consider offloading to an outside service provider is programming in SAP's programming language. "You can keep the brains in-house and work with a partner to streamline processes, or come up with a more efficient means of system support," he says. ◗

*DePompa is an independent writer and editor in Germantown, Md. She can be reached at bdepompa@comcast.net.*

# HOW TO GO ABOUT IT

The only way to judge whether it's a good idea to outsource any of a company's ERP workload is to closely examine current in-house ERP capabilities to see if they're really critical to the way the organization conducts business. It's also a good idea to consider the following when evaluating the outsourcing option:

**1**

**Figure out your business objectives first, "before outsourcing vendors are invited for briefings.** Don't make vendor selection or negotiation your first step," warns Dean Davison, an analyst at Meta Group Inc. "Most importantly, expectations need to be realistic and set ahead of time. Incorrect expectations are the primary reason why outsourcing arrangements are perceived as failures."

**2**

**Don't expect immediate cost savings.** "The myth that outsourcing is far less expensive than managing ERP applications in-house is simply untrue," says Gartner analyst Robert Anderson. Outsourcing may be more expensive, but it provides easier and more predictable budgeting.

**3**

**Make sure the vendor is strong in all of the geographical areas of your deployment,** including multisite and international operations, Anderson says.

**4**

**Work with a single point of contact at the outsourcing vendor** – and make sure that person is responsible for the success of ERP operations. Plus, the contract should provide a clear escalation path to resolve problems, says Anderson.

**5**

**Be sure to manage the outsourcing relationship, and don't become overly dependent on the outsourcer.** Outsourcing still requires in-house personnel who understand the applications and business processes involved, Anderson warns.

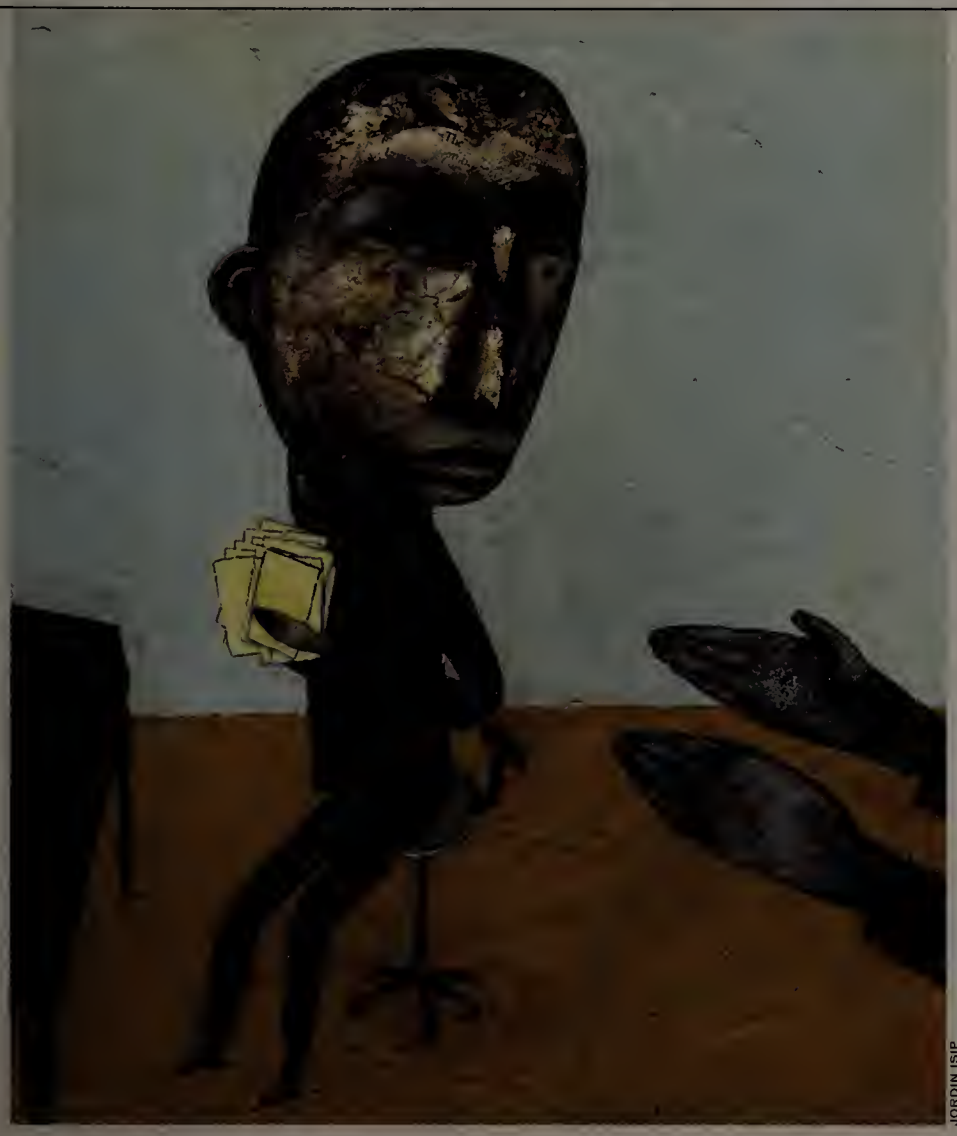
**6**

**Document software revisions and system changes – and keep the documentation in your possession.** "This information is vital if you must switch outsourcing vendors or bring operations back in-house," he notes.

**7**

**Treat the contractor's on-site staff like employees.** That means requiring them to attend staff meetings and adhere to company schedules.

*– Barbara DePompa*



JORDIN ISIP

# BREAKING THE Paper Habit

**IT replaced 200,000 pieces of paper with a Web database and reporting tool. But employees missed their monthly paper reports.**

By Lucas Mearian

WHEN EMPLOYEES at Huntington Bancshares Inc. heard that their beloved paper report — called the balance sheet income report — was going to be transformed into a Web-based database, they weren't happy about it.

Complaints came flooding in:

- "My manager says I have to have these [paper] reports for my file every month."
- "I'm not going to be able to do my job anymore."
- "I can't possibly ask my people to learn this. I'll have to do it for them every month."
- "You may have saved paper, but you have just doubled my workload."
- And everyone's favorite: "Who made this decision?"

But the $28 billion regional bank holding company, based in Columbus, Ohio, had good reasons for replacing the paper reports. They amounted to 200,000 pages — the equivalent of 40 cartons — sent to hundreds of offices every month. That's 2.4 million pages per year.

"As far as our users were concerned, the sun came up every morning and they got their balance sheet and income statement delivered to their desk every month-end," says Raymond Heizer, IS project leader for corporate profitability systems at Huntington.

The reports had to be mailed via an interoffice distribution system to 2,500 locations for a diverse user group ranging from operations clerks to financial controllers.

In place of that tidal wave of paper, the bank chose to load the financial data into an Oracle Corp. database running on a Unix server and purchased a reporting system from Crystal Decisions Inc. in Palo Alto, Calif. The result: The bank is now saving $30,000 per year in paper costs alone, says Al Werner, vice president of corporate systems.

Huntington is using Crystal Enterprise, a Web-based system for reporting, analysis and information delivery. It took four months and cost a little more than $1 million to deploy. The rollout was completed in October.

One obvious benefit of the Web-based reports is that cost center managers can now see the balance sheet income reports immediately online. Another benefit is the ease with which managers can see and resolve exceptions — items in an account balance that don't match the credits.

"We've always had a lot of data in the bank, but it was always seen in rows and columns. Now we can have bar charts of mismatches," Werner says.

He says the most expensive piece of the rollout was installing the servers and software and developing reports that were easy enough to use that they didn't require a lot of training for cost center managers.

Currently, Werner says he's working with bank offices to improve the look and content of the online reports by adding and subtracting certain lines and adding a third page of metrics. The report "is divided into sections, and each section gets a certain amount of report real estate," he says.

The data, drawn from Excel spreadsheets, mainframes and online analytical processing queries, may also someday include each branch's balance sheets, employee turnover, new sales and cross-product sales, service quality and credit quality. "That way we can score a branch on how they're doing," Werner says.

Going paperless has proved difficult for corporate America. Paper consumption by U.S. companies is growing 6% to 8% annually, according to document technology user group Xplor International in Torrance, Calif.

But Huntington is riding the front of a wave of banks trying to go paperless externally (with online banking statements) and internally to save money and comply with new regulations, says Avivah Litan, an analyst at Gartner Inc. "The trend started two years ago, but in the last nine months, it's really been moving ahead," Litan says.

For example, in June, Congress passed the Check Clearing for the 21st Century Act, also known as Check 21, which allows banks to voluntarily exchange electronic images over networks instead of using paper checks. Huntington Bancshares already offers online check images to members.

As for the bank income statements, cost center managers have stopped mourning the loss of their beloved paper reports now that they see the benefits of the database and reporting tools, Werner says. "We give them the ability to . . . see details of what is being charged. They can get an image of an invoice that hit their cost center. And they're saying, 'Wow, those are pretty nice features,' " he says.

**AT A GLANCE**

## Huntington Bancshares Inc.

*Columbus, Ohio*

- **Business:** It's a $28 billion regional bank holding company and the parent of The Huntington National Bank, which operates nearly 350 offices, mainly in Ohio and Michigan, but also in Indiana, Kentucky and West Virginia.
- **Sales (2002):** $2.2 million
- **Net income (2002):** $363 million
- **Employees (2002):** 8,177

SOURCES: WWW.HUNTINGTON.COM, WWW.HOOVERS.COM

# Readiness Relies on Talent

## The Navy is giving its workforce the technical tools and information to plan successful careers. By Dan Verton

CASE STUDY

A U.S. NAVY effort launched two years ago is revolutionizing the way sailors plan their careers. It's also ensuring that the Navy puts the person with the right skills in the right job.

In July 2001, the Navy established Task Force Excel (for "Excellence Through Our Commitment to Education and Learning") to help sailors accelerate learning and improve their proficiency. The program uses advanced trainers and simulators, tailored training programs, mentoring, and performance measurement and counseling tools.

"We think the right answer is to have one single business process for manpower, personnel and training," says Capt. Steve McShane, Sea Warrior's program manager.

Task Force Excel uses the "Five Vector Model" for personal and career development. The vectors represent the five developmental areas of a sailor's career: professional development, leadership, management, personal development and performance. By evaluating the Navy's 370,000 jobs in terms of those common vectors, sailors can easily compare positions to better understand the specific requirements of their career paths, says McShane.

Some sailors working in IT can now assess their educational and competency levels, identify skills gaps for specific job requirements and map out career paths through the Sea Warrior program using the Career Management System (CMS). This Web-enabled portal is currently being piloted by a select group of sailors and Navy civilian personnel.

"You could call it an individual development or career progression plan," says Sandra Smith, team leader for workforce initiatives at the Navy CIO's office. For example, sailors can study the skills required to be a CIO and plan their career paths accordingly. "Without a tool like this, a lot of people would not be able to develop as effective a career plan as they should," she says.

### Setting a Course

Petty Officer 1st Class Anthony Cagle, a job detailer at the Navy's IT community in Millington, Tenn., has been participating in the pilot project for the past two months. "It's very useful in determining your next move and where you need to point your career," he says. For example, the system tells workers what training they need to obtain the certifications required for their next career steps, based on the jobs for which they're best qualified.

"Before this system came along, all you had was a career counselor to help you — provided they were proactive in their own job," Cagle says. "This puts my career at my fingertips."

Senior Chief Petty Officer Patrick Courchene, another IT community personnel detailer using CMS, says a competent career counselor is critical to the process. "CMS gives you a visual representation of what you need to do, but I still think mentoring from career counselors is beneficial," he says.

The Navy is also using portals to help fill unpopular jobs, such as those overseas that require extended periods stationed away from family.

For example, the Navy has integrated pay incentives with online reverse auctions to fill select jobs. First, the Navy sets a bonus pay cap for a particular job (such as $500 extra per month). The bids for incentive pay decrease as competition increases, so the Navy saves money. "It's an optimal distribution system, but it's voluntary," says McShane. "Everybody's going willingly."

### Ahead of Corporate America

Joyce Brocaglia, CEO of executive search firm Alta Associates in Flemington, N.J., says the Sea Warrior program puts the Navy light-years ahead of corporate America in terms of human capital management. "What is unique about the Navy program is that they take a holistic approach to career development," says Brocaglia. "It far exceeds any corporate program that I've seen in my 20 years of recruiting. If corporations adopted similar plans, their retention rates would soar."

In the corporate world, IT workers aspiring to become senior IT executives are usually forced to rely on "calculated guesswork," Brocaglia says. "If a developmental opportunity plan was available to them, they could make informed decisions about training, certifications and job opportunities based on their career goals."

But with budgets tight, the Navy knows it can't simply throw money and new technology at every workforce challenge. That's where Project SAIL comes in. Still a work in progress, Project SAIL (Sailor Advocacy Through Interactive Leadership) is moving the Navy toward an interactive distribution system that in the future may include nonmonetary incentives such as guaranteed schools for high-performing personnel or guaranteed jobs.

Even the $6.9 billion Navy/Marine Corps Intranet (N/MCI) program is getting in on the act, says Rear Adm. John Cryer, commander of the Naval Network and Space Operations Command. The N/MCI program now takes IT workers coming off of a sea-duty tour and assigns them to a guaranteed two-to-three-year shore-duty job working with industry and studying for various industry-standard IT and security certifications.

"The goal is to return IT 'top guns' to the fleet," Cryer says.

And developing such talent within the ranks is critical to the Navy's readiness, says McShane. "In the 21st century Navy, we are going to be relying on a more lethal force with greater technological capabilities than anything we've seen in the last 50 years," he says. "And the only way we can compete for talent in America is to make sure we improve our HR systems. We don't necessarily need the best and the brightest talent, but the right talent."

**"The goal is to return IT 'top guns' to the fleet."**

**Sea Warrior Program**

All Navy personnel can conduct self assessments to plan or augment their career paths, such as finding the training that's needed to meet a specific job requirement or finding a job description or title and determining what training is needed to reach that goal. The program is accessible through the Career Management System's self-service portal.

**Task Force Excel**

Navy personnel can accelerate learning and improve their proficiency using customizable training programs, advanced trainers, simulators, mentoring offerings, and performance measurement and counseling tools.

The program also uses the Five Vector Model for personal and career development. It allows sailors to compare positions to learn about their job requirements.

**Project SAIL**

An interactive distribution system that may eventually provide nonmonetary incentives such as guaranteed job assignments or schools for high performers.

**Navy/Marine Corps Intranet**

The program places IT workers coming off of sea duty in two-to-three-year shore-duty jobs. It also provides opportunities for training toward IT certifications.

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CASE STUDY

# 'Team Schein' Saves the Day

Its consulting firm went bankrupt six months into the project. So Henry Schein Inc. hired its own team of experts to complete a data warehouse. By Jean Consilvio

MOST COMPANIES store reams of data about their customers. The IT challenge has been how to integrate and massage that information so the business side can respond immediately to changes in sales and customer preferences.

Henry Schein Inc. has it figured out. The $2.8 billion Melville, N.Y.-based distributor of health care products has designed and built a data warehouse with a standing in-house team of six IT professionals — and little or no help from consultants.

But that wasn't the original strategy. CIO Jim Harding says he hired an advisory team from dot-com consultancy MarchFirst, but that company went bankrupt in 2001, six months into the project.

It was a rocky start. Harding says he knew that having the right skills was critical to the data warehouse project, yet at the time, Schein had zero warehousing experience in its IT shop. So he and Grace Monahan, vice president of business systems, hired people for what they call "Team Schein."

## Finding People for Tools

Because Harding had chosen two key tools for the data warehouse — data extraction software from Informatica Corp. and front-end software from MicroStrategy Inc. — the focus was on finding people who had experience with those tools.

Monahan hired three people from outside: project director Daryll Kelly, data modeler Christine Bates and front-end specialist Rena Levy, who's responsible for the user interface and data analysis, as well as user support and training.

Dawen Sun, who handles extract, transform and load issues, and database administrator Jamil Uddin hold two other key positions. Another team member is rotated in from Schein's application development group.

"You really need to have your own talent pool," Monahan says. "Especially once we put the kibosh on the consulting effort."

Kelly, the team leader, "came with a lot of expertise right out of the gate," Harding says. It was the kind of data warehousing experience that was lost when MarchFirst folded.

That expertise is important because without it, "there's a whole bunch of really terrible mistakes that are made by a data warehouse team that tries to invent it by themselves," says Ralph Kimball, author of a series of data warehousing books and president of Ralph Kimball Associates Inc. in Boulder Creek, Calif.

The six months with the consultants weren't a complete waste, Harding says, because they left him with design and rollout plans, although they had to be revised significantly.

**AT A GLANCE**

**Henry Schein Inc.**

*Melville, N.Y.*

A huge distributor of 90,000 health care products in the U.S. and Europe. It serves more than 400,000 customers worldwide, including dental practices and laboratories, physician practices and veterinary clinics.

$2.8 billion

6,900 in 16 countries

200 worldwide

Besides having the right skills, the other top priority was ensuring data quality. "It seems kind of obvious," says Harding, "but sometimes these projects forget about [quality], and then the data warehouse ends up being worthless because nobody trusts it."

At the outset of the project, the team interviewed about 175 potential business users to determine the information they needed to access and the reports they wanted to see. Plus, the team analyzed the old paper reports and the condition of the data housed in the company's core transaction system.

"Data quality is the hardest part," says Jim Harding, CIO at Henry Schein.

Monahan says those steps brought to light the importance of cleansing data in a system that's designed for transactional purposes but not suitable for a data warehouse. That led to a long period of standardizing transactional codes in order to produce the sales reporting that business analysts needed.

Consultants can be valuable at the outset, but it's the in-house people who have "this gold coin of knowledge of how their systems really work, which data is really good and not so good, and how the end users really want to use the data," Kimball says.

"Data quality is the hardest part of the project, because it's very time-consuming and detailed, and not everyone appreciates it unless they've been through a couple [of projects], like Daryll [has]," Harding says.

And there was yet another tedious obstacle. The data warehouse was designed to provide a very granular level of detail about customers, "so we can slice and dice at will," Harding says. But the result was sluggish system performance. So the team created summary tables to make the queries work faster, and those tables needed to be tested. It was a lengthy process, Harding says, but in the end, it worked very well.

## Never-Ending Job

The journey has taken well over two years. The system went live 18 months ago but "really came into its own" in February, Harding says.

Of course, building a data warehouse is a never-ending job. New companies are acquired, products are added, customers come and go, and new features and enhancements are ongoing. But from an IT standpoint, the data warehouse is complete and has 85% of the data from the core transactional system. The next major goal is to provide the European operation with its own data warehouse system and tie it into the one in the U.S.

Harding says his project will surely justify the costs, but he lacks hard numbers. "We didn't have a formal ROI that you could track later. I don't even know how you would do it," he says. "The reason we're doing [the project] is because of the value it brings to the business."

Lou Ferraro, vice president and general manager of Schein's medical group, says the business benefits are outstanding. He can now figure out who his most profitable customers are, target customers for certain types of promotions and look at the business by product categories or sales territories.

Ferraro says the data warehouse also helps select customers for direct-mail marketing campaigns that range "upward of 25 million pieces annually."

One of the most valuable features of the data warehouse has been the ability to add fields to reports. "Once you create a basic report, draw a conclusion [and] drill further based on those assumptions, it allows you to use that data and go even further, as opposed to creating a new report, and another and another," Ferraro says.

The IT department used to create, edit, revise, run, download, reprogram and print piles of paper reports — daily, weekly, monthly and quarterly — for the analysis of sales and market trends. But today, business users search, sort and drill down for that information themselves in a fraction of the time.

The data warehouse has become "a part of our culture," says Harding. "It's got that kind of aura about it within the company."

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## BRIEFS

### Kozik Starts Newly Created CTO Job

Susan S. Kozik, former vice president of IT operations and services at Lucent Technologies Inc., today starts her new job as the first chief technology officer at the Teachers Insurance and Annuity Association - College Retirement Equities Fund in New York, one of the largest private pension systems in the U.S., with $280 billion in managed assets.

Kozik, 45, will be in charge of all IT, including data center operations, IT risk management, and systems engineering and architecture. She will also help the not-for-profit company try to meet its goal of aligning technology with business needs. She was previously CTO at Penn Mutual Life Insurance Co. and started her career at Cigna Corp.

### Security Spending May Grow About 4%

Total spending for security products and services for 2003 will increase to approximately $17 billion, Aberdeen Group Inc. in Boston predicted in a report last month. Annual spending flattened at $16.3 billion during the past two years, the report said, and security vendors took a hit during the same period: 50 companies were acquired, and 36 suppliers, most privately owned, went out of business.

### DOD Uses Unique ID Tags to Track Assets

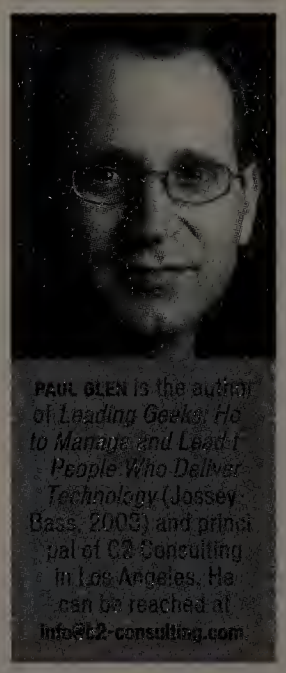
The Department of Defense last week implemented a unique-identification program to track all new equipment and parts using a standard and universal code tagging system. The mandatory policy will help produce clean audit reports and ensure system interoperability as well as enhance the logistics and business transactions that are used to support U.S. and coalition troops. The tags are compatible with the International Standards Organization. According to the DOD, an expansion of the policy to radio frequency ID is under way.

PAUL GLEN

# Nurture the New Project Manager

CAN YOU IMAGINE a subordinate lending a sympathetic ear to his newly promoted supervisor? What would he say? "Well, boss, I see that you're having a difficult time adjusting to your new power. That must be tough. I can really empathize with your difficulties. How can I help?"

Not going to happen. New IT project managers never get this sort of support. It's much more common that they get grudging compliance and whispered resentments. Yet it's a time when they need support more than ever.



PAUL GLEN is the author of *Leading Geeks: How to Manage and Lead the People Who Deliver Technology* (Jossey-Bass, 2003) and principal of C2 Consulting in Los Angeles. He can be reached at info@c2-consulting.com.

Bookstores overflow with books on being a manager, but rarely do they discuss the difficult transition of becoming a manager.

Whether you're managing new managers or are a first-time project manager, pay close attention to the period of transition from individual contributor to manager. Becoming a manager requires more than just learning a new set of skills; it requires a redefinition of self.

Two of the most common problems that plague first-time managers are attitudes they have toward their old job and their new one.

**"Just let me do it."**

The first problem is an inability to delegate. We all learn to derive at least part of our satisfaction from feelings of competence. We develop skills that allow us to accomplish tasks and then feel good about those achievements. We are rewarded for our competence with money, praise and position. When rewarded with a promotion to project manager, one of the challenges is to abandon the past sources of competence for new ones.

A new manager faces the difficult job of supervising others who are developing and using the skills that the manager has spent a lifetime applying. Since new managers are often among the most capable people with those skills, they feel frustrated by trying to work with others who aren't as capable as they are.

The manager's first impulse is to think, "Get out of my way and let me do it. It'll take longer for me to explain it to you than to do it myself." Of course, doing this will not only alienate staffers, but will also prevent them from growing into their new roles.

New managers need to diminish their dependence on old skills in favor of developing new ones.

**"I already know what my new job is all about."**

The second problem is that not only are new managers burdened with the success they achieved in their previous roles, but they are also burdened with preconceived notions about the role of a manager.

Individual contributors have an idea of what they think the boss's job is. Frequently, that concept is based on the idea that a supervisor's job is to do the following:

- Provide task direction.
- Offer protection from political forces.
- Represent the needs and desires of the team to senior management.

Although these are all valid components of a manager's job, they represent only a small part of the whole picture — only those parts directly related to the obvious needs of subordinates.

While each new manager brings a unique point of view to the job, it's inevitably a view that's limited by the experience of being a team member. This limited vision of the role of manager can be very difficult to dislodge.

If a new manager brings very strong emotional associations with his own previous managers, he may be very dedicated initially to their ideas of the role. Some may be intent on emulating the management style of a beloved mentor. Others may find their ideas governed by avoiding the behaviors of poor managers.

Regardless of the source of such initial conceptions, understanding more fully the wider role of a manager requires both abandoning preconceived notions and accepting new ones. Neither of these is easy.

It typically takes new managers a year or more to begin to appreciate all the things that they don't know about the new role.

New managers require patient supervisors and mentors to survive the trial of the first months in the role. They need to be monitored and supported during what is inevitably an emotionally trying experience.

And they must realize that it's normal to feel stressed, confused and exhausted during the transition.

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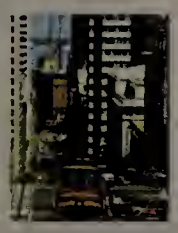

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**Software Engineer** (with Masters Degree and 2 years experience or Bachelors and 7 years experience) - Natick, MA. Job entails and requires experience in design, development and maintenance of business web applications using Oracle Enterprise manager and related tools (TOAD, PL/SQL procedures), Oracle DBA, Websphere, J2EE (Servlets, Applets and JSP) VoiceXML and Unix shell scripting. Attractive compensation package. Send resume to Ed Tourtellotte, Tourtellotte Consulting, 20 Main St., Suite 308, Natick, MA01760.

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(508) 820-8179

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**Craig Stedman,** assistant News editor.....(508) 820-8120
**Mitch Betts,** Features editor.....(301) 262-8243
**Tommy Peterson,** Technology editor.....(508) 620-7729
**Jean Consilvio,** assistant Management editor.....(508) 820-8562

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**Frank Hayes,** senior news columnist.....(503) 252-0100

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**Pimm Fox, Michael Gartenberg, Dan Gillmor, Paul Glen, Thornton A. May, David Moschella, Bart Perkins, Nicholas Petreley, Paul A. Strassmann**

### CONTRIBUTINO WRITERS

**Mary Brandel, Amy Helen Johnson, Russell Kay, Sami Lais, Kathleen Melymuka**

### GENERAL INFORMATION

#### TELEPHONE/FAX

**Main phone number.... (508) 879-0700**
All editors unless otherwise noted below
**Main fax number..... (508) 875-8931**
**24-hour news tip line... (508) 820-7718**

#### E-MAIL

Our Web address is **www.computerworld.com.**
Staff members' e-mail follows this form: **firstname_lastname@computerworld.com.**
For IDG News Service correspondents: **firstname_lastname@idg.com.**

#### LETTERS TO THE EDITOR

Letters to the editor are welcome and should be sent to: **letters@computerworld.com.**
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# Encryption

Y2k upgrades helped push companies to take advantage of new Web-based technologies, the upgrade to Triple DES may help lay the foundation for new point-of-sale and ATM services, such as bill paying.

Bank One Corp. in Chicago, for instance, has decided to replace all 4,000 of its ATMs with Triple DES-compliant models over the next three years. That effort began in March and will cost at least $150 million, according to a Bank One spokeswoman. In addition to being more secure, the new machines will be Web-enabled and ready to support a host of new features such as online bill payment, account aggregation and brokerage services.

DES is designed to protect personal identification numbers (PIN) entered at ATMs and point-of-sale devices, but using brute-force computing power in a process called an "exhaustion attack," it's possible to unscramble DES-protected information.

## Industry Conversion

Led by Purchase, N.Y.-based MasterCard, the major electronic funds companies began seeking an industry conversion to Triple DES several years ago. But with the deadlines looming, banks and retailers are only beginning to deal with the costly conversion, and they're now calling for deadline extensions. Many of the nation's 360,000 ATMs will have to be replaced to comply, as will some back-end systems. Many applications will have to be rewritten to handle Triple DES.

The total cost will be staggering. A new ATM can cost as much as $50,000; costs will range from $1,000 to $5,000 for ATMs that can be upgraded, according to financial industry analysts. Hardware security modules, which sit on transaction servers and process DES keys, can cost up to $50,000 each.

Kurt Helwig, executive director of the Electronic Funds Transfer Association in Washington, said the effort to replace or upgrade old systems will be huge, and financial firms are fuming.

"[Banks] feel they're being asked to bear this burden on behalf of the industry, when it's a problem that's not such a grave threat," said Helwig, whose organization has 600 members, including banks, ATM networks and technology vendors.

"Everyone is convinced that Triple DES is a good idea," said Andi Coleman, Tandem security team leader at Charlotte, N.C.-based Bank of America Corp., who heads a special interest group on security for the ITUG HP NonStop user group. Coleman said she has no doubt that financial services companies will meet the requirements, but she's concerned about whether ATMs widely deployed at retail establishments, which are operated by independent networks, will also comply. "If ever there is a weak link . . . it's going to be there," she said.

Star Systems, which is owned by Memphis-based Concord EFS Inc., completed a two-month Triple DES upgrade on its network switches about six months ago. Lynn said the effort was relatively simple and involved updating software on 30 host security modules — appliances that contain the keycodes for encrypting and decrypting PINs.

For banks and transaction processors, the Triple DES upgrades involve replacing ATM keyboards with keyboards that house an integrated circuit board that encrypts PINs before they're sent to the machine's internal processor. Currently, the PINs are transferred over a 2-foot cable in the clear before being encrypted, said Jerry Silva, an analyst at TowerGroup in Needham, Mass. ATM processing software will also have to be upgraded.

Charles Kennedy, a partner at the law office of Morrison & Foerster LLP in Washington, said industry mandates create a "standard of care" that give state and federal regulators the legal foothold to step in with enforcement proceedings. Those regulators can impose fines on institutions that suffer security breaches because they lack Triple DES, Kennedy said.

The U.S. Department of the Treasury and the U.S. Federal Reserve Bank currently use Triple DES, a standard that has been adopted by the American National Standards Institute and the International Standards Organization as well. ◗

### Triple DES Deadlines

**Star Systems (debit network):** Dec. 31, 2005

**NYCE Corp. (debit network):** Dec. 31, 2005

**MasterCard:** April 1, 2005, for ATMs; no deadline for point-of-sale terminals because company accepts the Derived Unique Key Per Transaction standard used by such terminals.

**Visa U.S.A.:** Point-of-sale PIN terminals must be compliant by January 2004; no deadline set yet for ATMs.

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# California

avoid a repeat of the situation that led to the undoing of its former Department of Information Technology (DOIT).

At a meeting in Sacramento, Kelso outlined an IT governance proposal he crafted at the governor's request, a version of which is now before the state legislature. The proposal specifies the technology procurement responsibilities that would be given to various government entities, including his office, the state's finance and general services departments, the managers of its data centers and the CIOs of individual agencies.

For example, the bill mandates that the state CIO focus on strategic planning and gives the finance department the ultimate authority to approve and fund IT projects, as well as project oversight duties. The legislation includes Kelso's own recommendations on how to govern IT, but Gov. Gray Davis has yet to say whether he would sign the current version of the bill.

In a phone interview after the meeting, Kelso pointed to obstacles such as a massive state budget crunch and a bid to recall Davis, whose critics used the administration's role in the licensing deal with Oracle Corp. to help put the recall effort in motion. But, Kelso said, his office has initiated programs to streamline the state's IT procurement process and has developed new spending oversight rules and procurement training programs.

## Consolidation Plans

The state is also moving ahead with data center realignment and consolidation efforts, Kelso noted. For instance, by next July, it at last plans to consolidate a data center that contains personnel records on state workers and the IT facility for its health and human services agency under a single administrative entity, a project that has been on the drawing board for the past decade.

However, Kelso said that achieving all the IT procurement improvements he has in mind and reaping the anticipated cost savings on technology purchases will require a multiyear effort. "There are still way too many hurdles in large, complex procurement projects," he said.

With its many agencies and departments, California's government is one of the biggest enterprises in the world, Kelso noted. But the state "doesn't really have good enough information about many of its systems and infrastructure," he said. That makes it impossible to cost-effectively launch and manage potential statewide technology initiatives.

State auditor Elaine Howle last year sharply criticized the Oracle deal in a report that helped fuel the debate over the propriety of the software contract [QuickLink 29291]. Howle said her department has yet to do a detailed analysis of Kelso's proposed IT governance program, but on the surface, it appears to be "going in the right direction."

Howle added that after her staffers interviewed government and private-sector IT executives last year to get recommendations for restructuring the state's approach to technology spending, it became clear that a CIO who could take responsibility for strategic planning was needed. That position didn't exist under the old DOIT, Howle said.

Kelso initially took over management of the DOIT on an interim basis and then was named state CIO after the IT agency was dissolved at the end of June 2002. He currently works with California's various state agencies with help from two deputy CIOs.

Kelso said there is more of an atmosphere of collaboration and trust than existed under the DOIT, which was viewed by some state officials as "a competitor." For example, there are now regular meetings between Kelso, agency data center staffs and finance department officials. ◗

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FRANK HAYES ■ FRANKLY SPEAKING

# How to Compete

CAN YOU COMPETE AGAINST OUTSOURCING? Sure you can. *Are* you competing against outsourcing? Probably not. Why not? Probably because you think the decision to outsource or not to outsource is one that's outside your control. You figure no one will ask you whether your IT shop's work should be shipped to India or Canada or Ireland or China or even just to some army of cube slaves on the other side of town.

And you're right — by the time you're informed of the decision, it's too late. By then, the deal is done.

But that doesn't mean you can't compete right now.

Maybe it seems impossible. After all, you know what outsourcing has to offer: technical proficiency, economies of scale and — in the case of offshoring — cheaper labor. How the heck do you compete with that? Sure, investments in training will help. But you'll never get an outsourcer's economies of scale. And there's no way you can match that offshore price.

But that's not how you compete effectively anyway. Think about it: How many software vendors have successfully competed against Microsoft by building word processors and PowerPoint knockoffs?

You don't compete effectively by trying just to match the other guy's strengths. You compete by doing what the other guy can't do.

And what can a corporate IT shop do that hired guns can't? You can leverage your intimate knowledge of the business and how it works. You can build close relationships with users. You can really understand your company — how it really works, why decisions are really made, what customers really need.

There are advantages to being part of the organization. You're close enough to spot situations before they become problems and to recognize problems before they go critical. Outsiders have a harder time doing that.

Outsiders — outsourcers — also have trouble being flexible when it's firefighting time. They can't react as quickly or throw as much expertise at sudden crises. They've got dozens or hundreds of corporate customers whose needs they have to juggle. You've got one.

And outsourcers know where their primary responsibility lies: with their profit margins. They'll always be looking for ways to maximize their own income, not your company's success. Sure, they'll want your company to succeed — they won't get paid otherwise. But their customers' success will always have to be priority No. 2 at best.

For you, it can be Job 1. In fact, it had better be.

Those are your competitive advantages. Oh, you've got one more: You already own your organization's IT work. Right now — and at least until your CEO starts thinking seriously about sending that work somewhere else — the job is yours to lose.

So you still have the chance to make your IT shop competitive. You still have time to get in close with users, to think two steps ahead to spot what they'll need, to fine-tune your processes so you're delivering exactly what the business requires instead of the generic IT services an outsourcer provides.

Most of all, you have the opportunity to make users, managers and executives happy with the quality and effectiveness of what they're getting from your IT shop. Satisfied customers don't look for a replacement — and they'll pay a premium if they're sure they're getting their money's worth. That's the strongest competitive advantage of all.

And if you're really that focused on what your users and business need, you *will* be delivering their money's worth — in a way you probably never would if you didn't take the need to compete against outsourcing seriously.

Sure, you can compete against outsourcers. You may even make it so tough for them to compete with your IT shop that they'll never have a chance.

The real question is, will you? ◗

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

## There's Always an Explanation

"The bottom half of all my printouts are blurry," user complains to support pilot fish. He orders a replacement drum for the printer, but it doesn't help. Neither does a new printer. So he goes to her desk and asks her to print something. "As the paper starts to emerge," says fish, "she yanks it out of the printer and says, 'See what I mean?' "

SHARK TANK

### Heavy!

**User asks IT pilot fish to replace this small company's backup software with a version that works with recordable CDs. But why? "The old solution worked perfectly," says fish, "But it stored the daily backup on a removable hard drive, and the secretary took it home at night. She told me the hard disk weighed too much in her handbag."**

### Notes, Shmotes, I Want Lotus!

**CEO tells his IT director that he wants to change from Novell GroupWise to Lotus because he's more familiar with Lotus. "Not wanting to question the CEO, we dutifully installed a new Notes server and trained 500 users," says pilot fish. Then it's time to train the CEO – who asks, "Where are the rest of the planner functions?" Says fish, "That's when we realized that all the CEO really wanted was Lotus Organizer on his desktop."**

### Cut That Out!

**"The boss's computer isn't working," frantic receptionist tells IT pilot fish. "Every time he tries to do something, it talks to him in your voice." Puzzled fish checks it out, and sure enough, it's his voice. "Then I remembered: When I was setting it up, I had recorded the message, 'Hey, cut that out!' and set it as the alarm for critical errors," fish says. "My boss had managed to mess up the computer to the point that everything he did was a critical error."**

### Eh?

**This Army hospital commander likes voice-recognition software for dictating notes, so he assigns three IT staffers to get it working. "One was from the Indian subcontinent, one from the Far East and one, though U.S.-born, had a strong regional accent," reports a pilot fish. "They took turns reading the training paragraphs to the system. For some reason, it never did seem to work right."**

### Lost in Time

**User calls the help desk pilot fish to ask if something is wrong with the mail server. "My e-mails are coming in with the next week's date," she tells fish. "This is March 31, isn't it?" No, says fish, it's April 7. Grumbles fish, "That's when she realized she forgot to change her calend[illegible]."**

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